INITIATING A FLOURISHING CITY

Creating a safe environment for young urban families in M4H, Rotterdam

Mazeen Majeed I P4I 25th May 2020 I Dutch Graduation studio: Advanced Housing I Tutors: Theo Kupers, Pierijn van der Putt, Ferry Adema

PROBLEM STATEMENT

Het Parool

Steeds meer gezinnen met jonge kinderen verlaten Amsterdam

Vorig jaar vertrok bijna één op de acht gezinnen met jonge kinderen uit Amsterdam. Het zijn vooral mensen met hogere inkomens, zonder migratie-achtergrond die weggaan, blijkt uit nieuw onderzoek van het CBS.

Michiel Couzy 26 juni 2019, 10:15

Many young families are fleeing the big Dutch cities

Housing Society November 7, 2017

Many families are moving to smaller communities. Photo: Depositphotos.com

Young families are moving house even before their children reach school age especially if they reside in the four largest Dutch cities, Amsterdam, Rotterdam, The Hague and Utrecht, the national statistics office CBS said on Tuesday.

nrc.nl

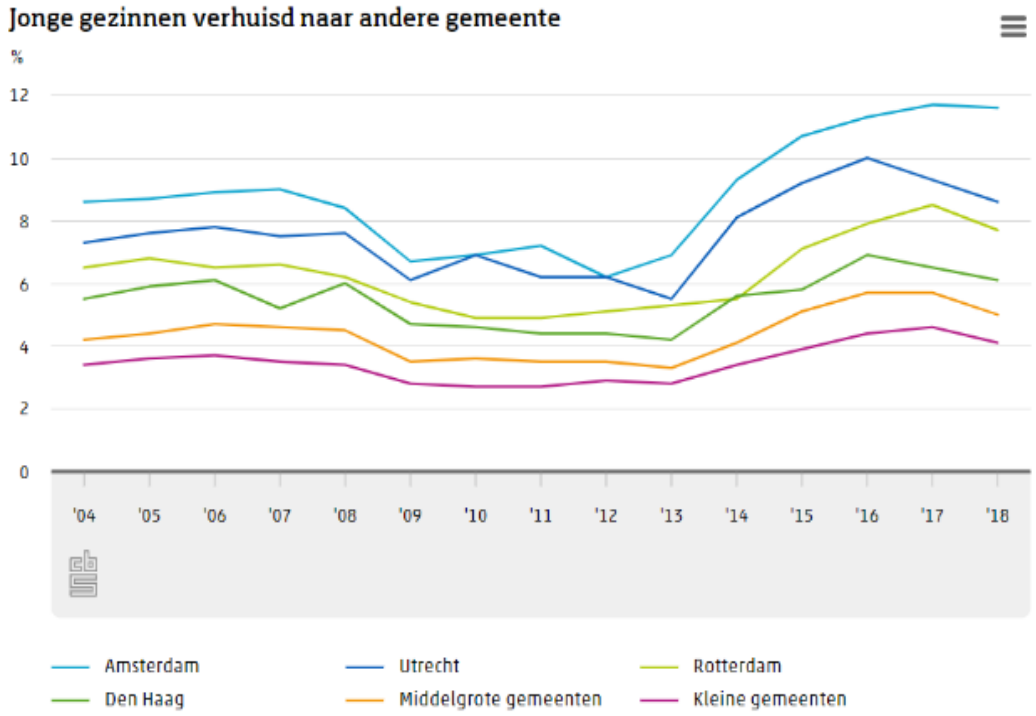
Digitale editie Webwinkel

Binnenland Buitenland Economie Cultuur Sport Opinie Wetenschap Tech & Media

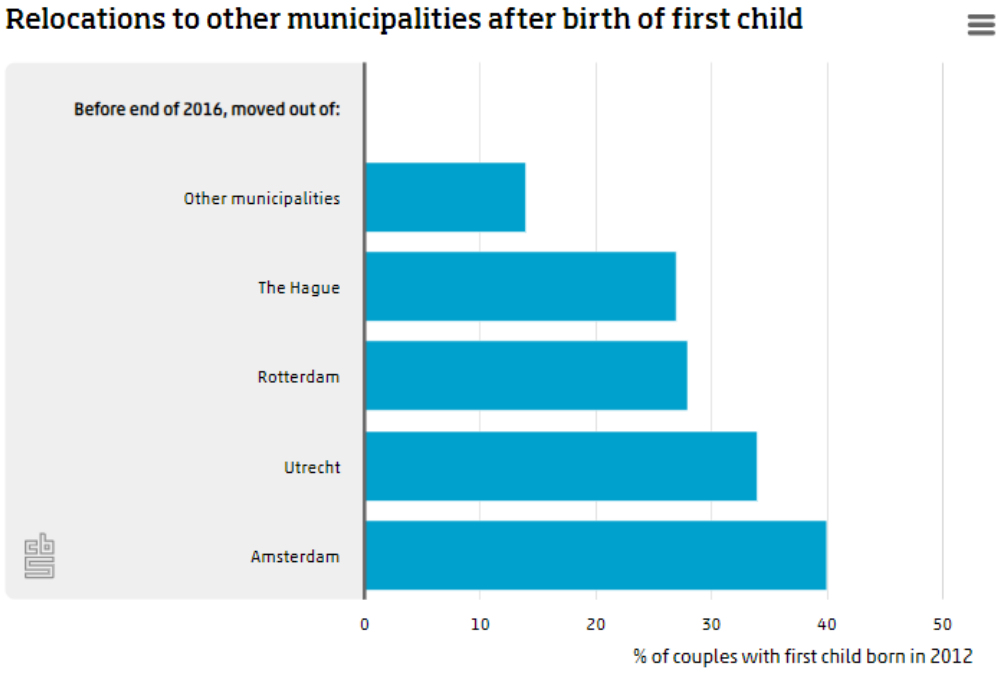
Jonge gezinnen trekken weg uit de grote steden

9 juni 2016

PROBLEM STATEMENT



Young families leaving the city (CBS, 2018)



Young families leaving the city after the birth of their first child (CBS, 2018)

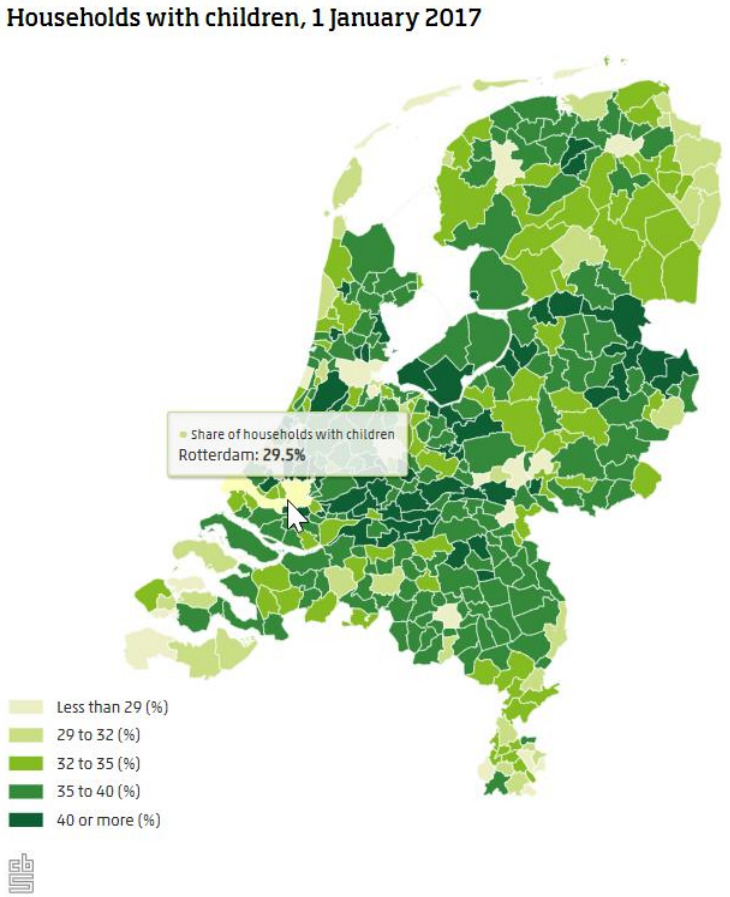
PROBLEM STATEMENT

7.8 milion private households in NL:

2.6 milion (33%) households with 1 or more children

2 milion children with two parents

0.6 milion single-parent household

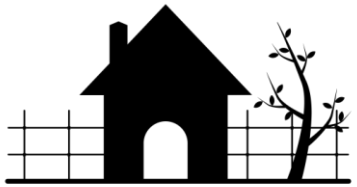


CBS 2018

PROBLEM STATEMENT

Reasons to leave:

Small dwellings



No or limited outdoor space

High costs

Traffic

Unsafe feeling

PROBLEM STATEMENT

Reasons to stay:

Social connections

Lifestyle

Cultural climate

Opportunities

YOUNG URBAN FAMILIES - CHILDREN

Relevance of the city:

- “Children are, after all, the capital of the city” is a statement made in the (Housing vision) of Amsterdam.

- By 2030 up to 60% of the global population are forecasted to live in urban cities and up to 60% of these urban residents will be under the age of 18 (UNICEF, 2018).

- Functional, social and symbolical binding to the location (Karsten & Felder)

- Child-friendly cities (UNICEF)

RESEARCH QUESTION

Why is living in a city important for young families and how can we design affordable housing for young urban families which respond to the needs of the child and the needs of the parents?

Hypothesis:

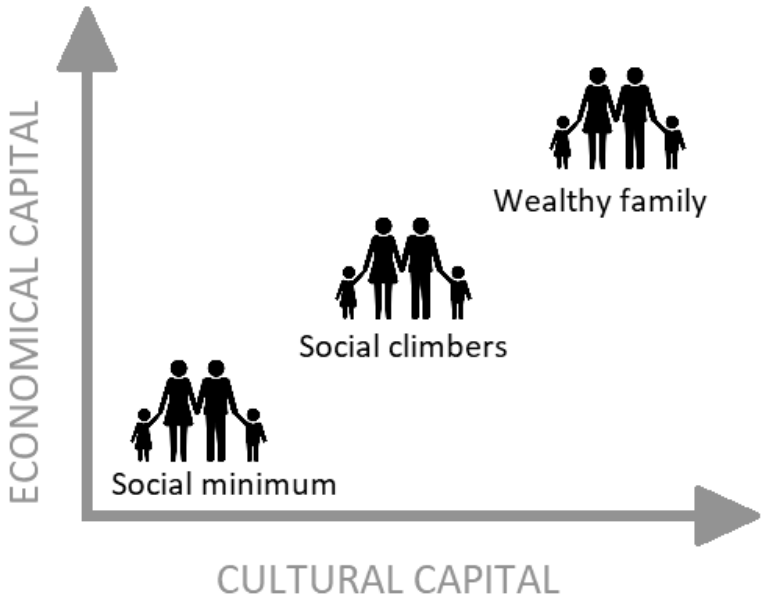
Living in a city like Rotterdam is beneficial for the development of the child since cities offer children exposure and better opportunities to experience public spaces (museum, cinema, etc.) and interact with a diverse range of people. Living in a city is beneficial for parents since they can live near their work, family, social life. Reasons why young families are leaving the city is because their housing needs are not met. By translating the needs of children (space to play, learn and living) and parents (work, leisure, peace of mind and living) into a design proposal, families will stay in the city.

Young urban families – family typology

1. The social minimum
- Little education
- Low employment rate
- First-generation immigrants/refugees
- Social housing
- Income €22.200

2. The social climber
- Secondary education level
- Almost every parent has a job
- Migrant/native families
- Social housing
- Income €30.150

3. The wealthy family
- University/ higher education level
- Better jobs
- Wealthy
- Both parents working
- From Yup's → Yupp's
- Owner-occupied home
- Income €44.690 t/m €54.197



Source: Own production, source (Karsten & Felder, 2016)

YOUNG URBAN FAMILIES - CHILDREN

1. The outdoor child
- Often outside
- Live in small dwellings with little space
- Reasonable degree of social control

2. The indoor child
- Hardly outside, afraid to go outside
- From migrant parents who try to work their way to middle class
- High degree of social control by parents
- Only focused on homework

3. The backseat generation
- Outside space is transit area
- Grew up in the car era, accustomed to sitting in the backseat
- Overprotected

4. The sidewalk child
- Outside but within hearing/sight distance
- Young children, easily satisfied with sandbox on sidewak or bicycle
- Supervised by parents

Outdoor children (University of Utrecht, 2018)

Indoor children (The Guardian, 2018)

Backseat generation (Vermeiren, 2015)

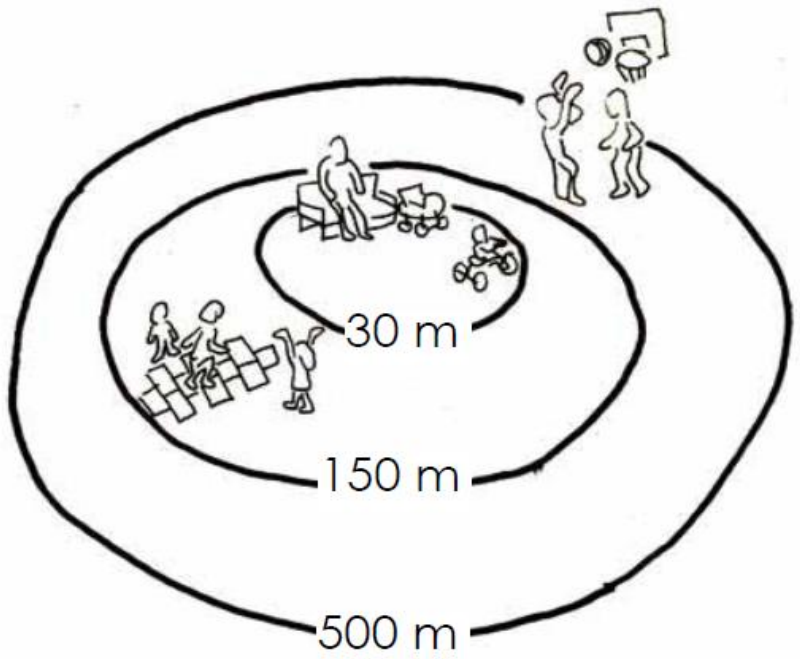
Sidewalk children (The International Institute for the Urban Environment, 2007)

RANGE OF ACTIVITY

- First range: 0-4 years old: the range of action for these children is 30 meters. This range is to enhance their motor skills.

- Second range: 4-8 years old: the range of action for these children is 150 meters. This range is to enhance their social skills.

- Third range: 8-12 years old: the range of action for these children is 500 meters. This range is for children to enhance their independence. Facilities in other neighborhoods also belong in their range.



Range of action (Keesom, 2016)

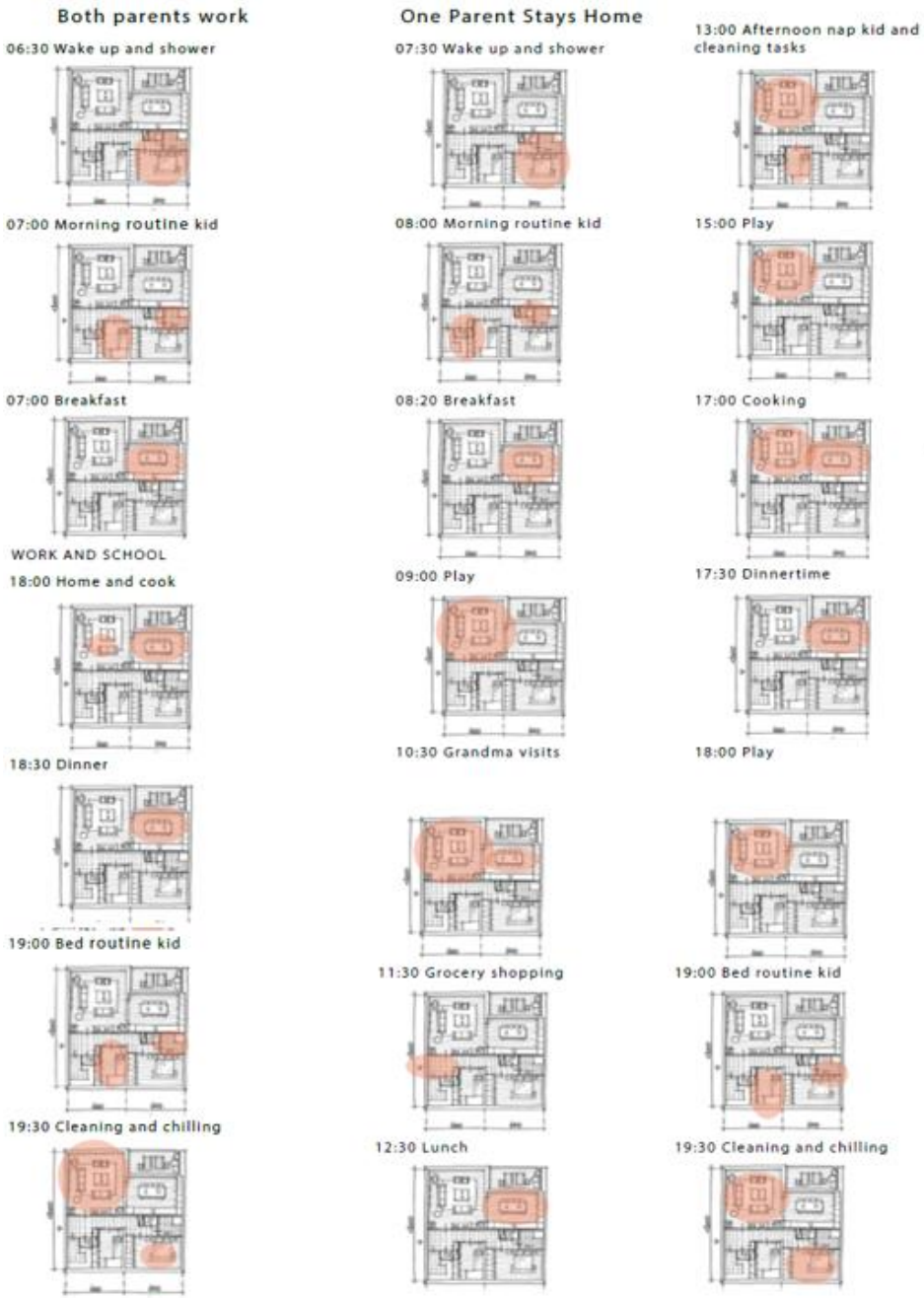
DAILY LIFE

Both parents working:

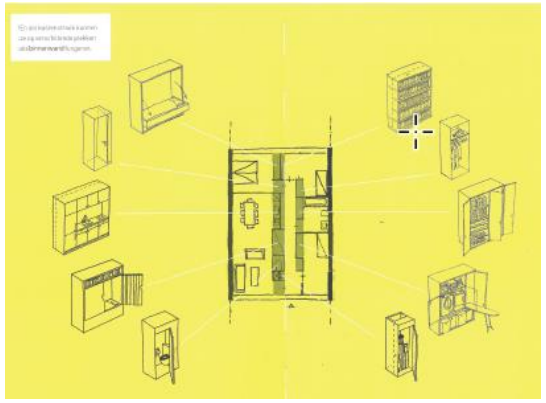
- kitchen, living room

One parent works:

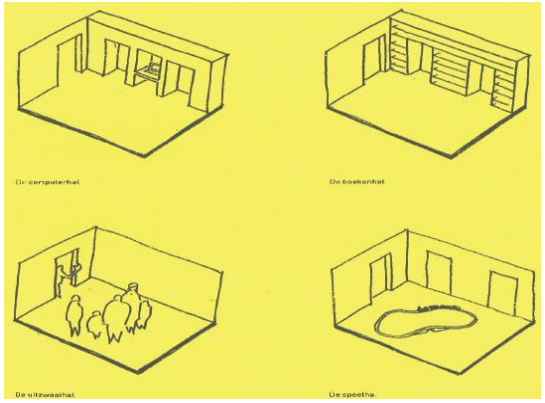
- Living room, kitchen



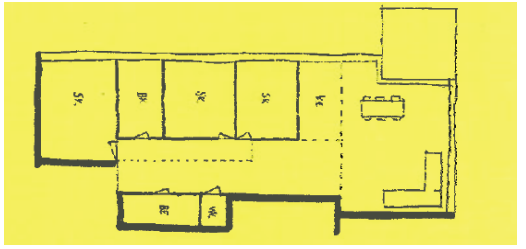
DESIGN TOOLS – NESTING IN THE CITY

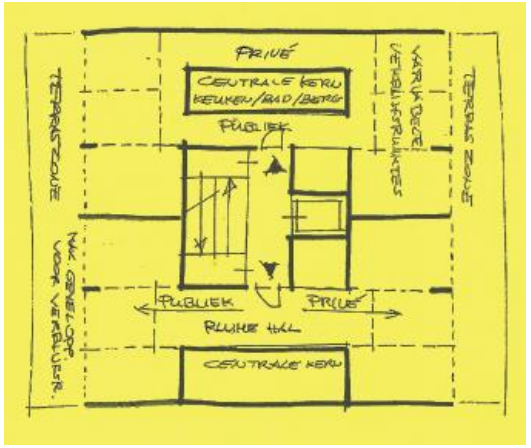


More storage space (Keesom, 2016)



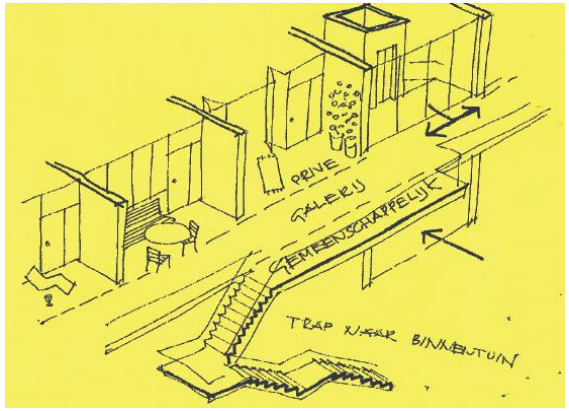
A smart layout (Keesom, 2016)

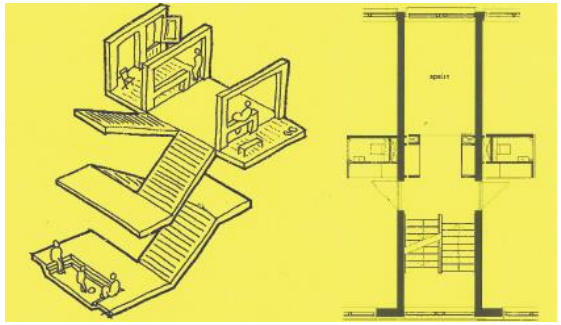




Flexibility of space (Keesom, 2016)

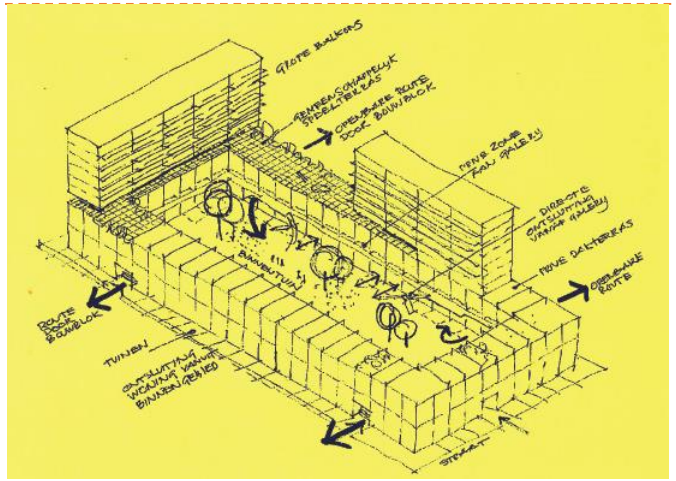
DESIGN TOOLS – NESTING IN THE CITY





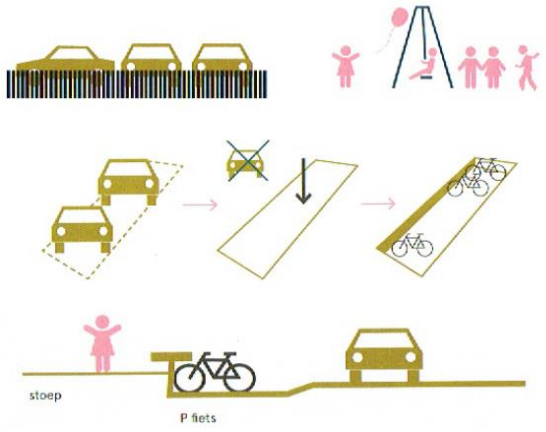
Connection between public and private (Keesom, 2016)

Adaptable to the growth of children (Keesom, 2016)

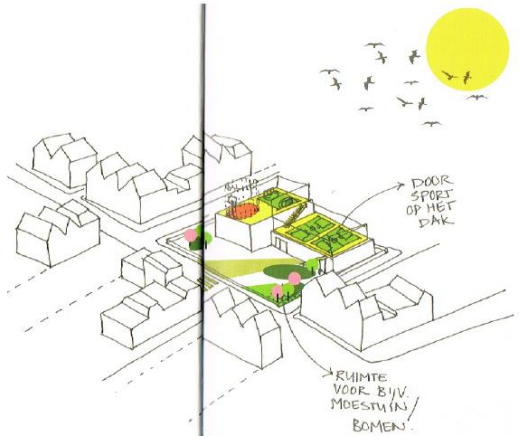


Family friendly environment (Keesom, 2016)

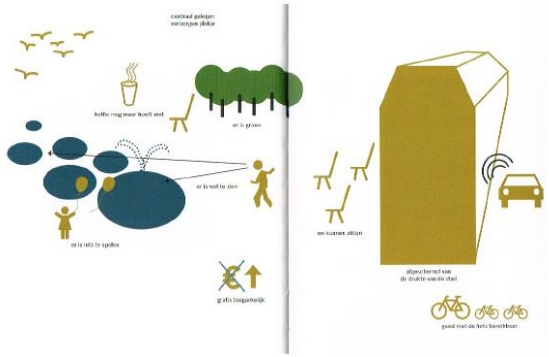
DESIGN TOOLS – THE NEW GENERATION CITY CHILDREN



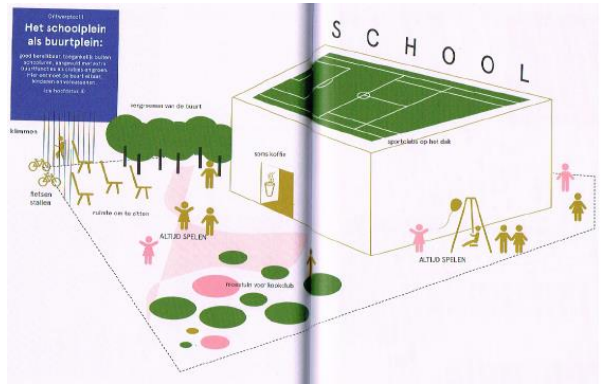
Design suggestions (Karsten & Felder, 2016)



Making space for after school activities (Karsten & Felder, 2016)



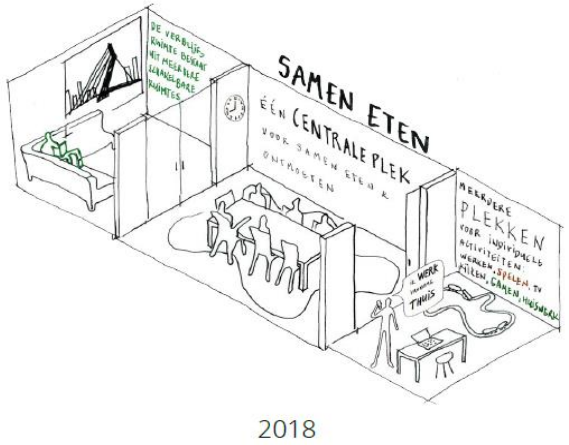
Differentiation in the neighborhood (range 500-1000m) (Karsten & Felder, 2016)



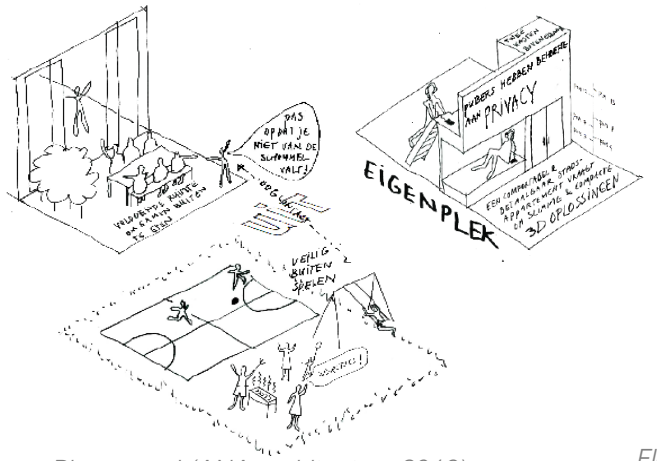
The schoolyard as playground (Karsten & Felder, 2016)

- Design on basis of an analysis
- densify
- Create parks
- Enrich the neighborhood
- Foot, bicycle, car (importance order)
- Schoolyard as playground for the neighborhood
- Close proximity of sport facilities
- Parking around the corner instead of playing around the corner
- Wide side walks
- Make space for bicycle parking
- Design double use
- Connect dwelling to ground level

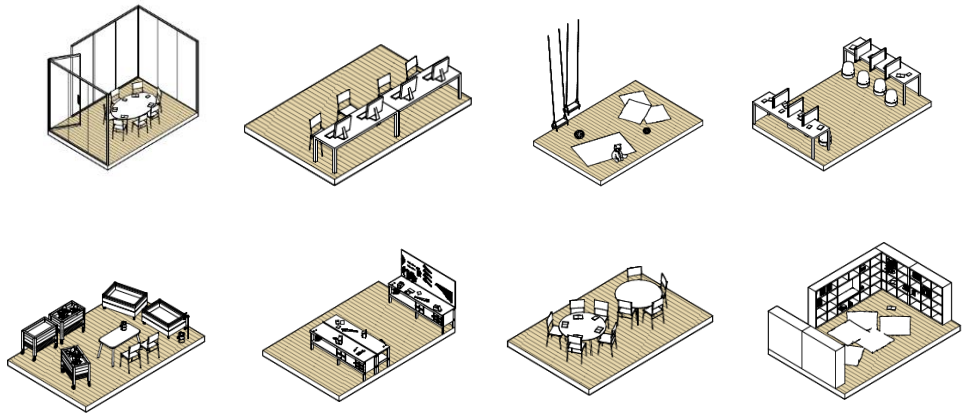
DESIGN TOOLS – DE LEEFWERELD VAN HET KIND (THE LIVING WORLD OF THE CHILD)



Flexibility in use and layout of the rooms: more space for the individual (ANA architecten, 2019)



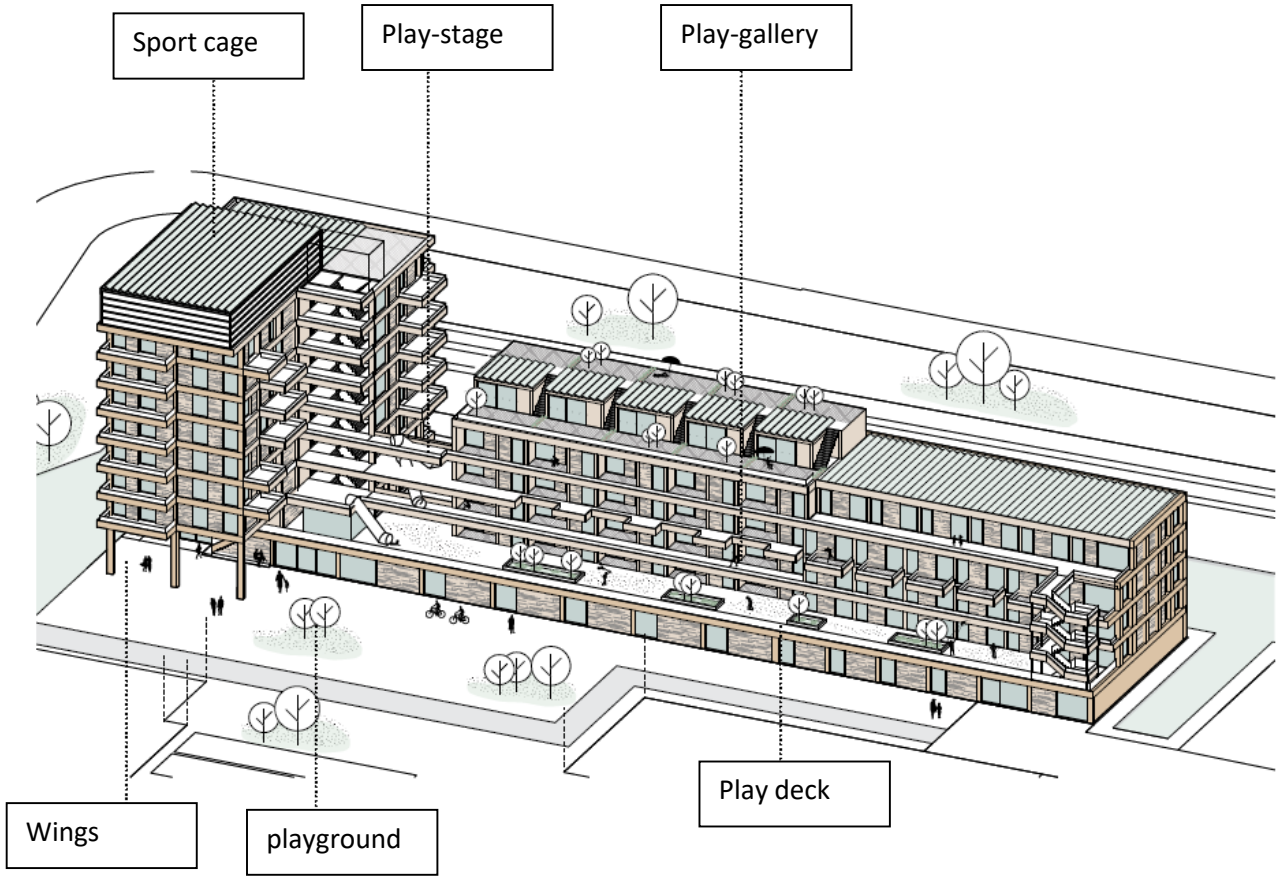
Playgorund (ANA architecten, 2019)



Flexible elements for co-operative learning (ANA architecten, 2019)

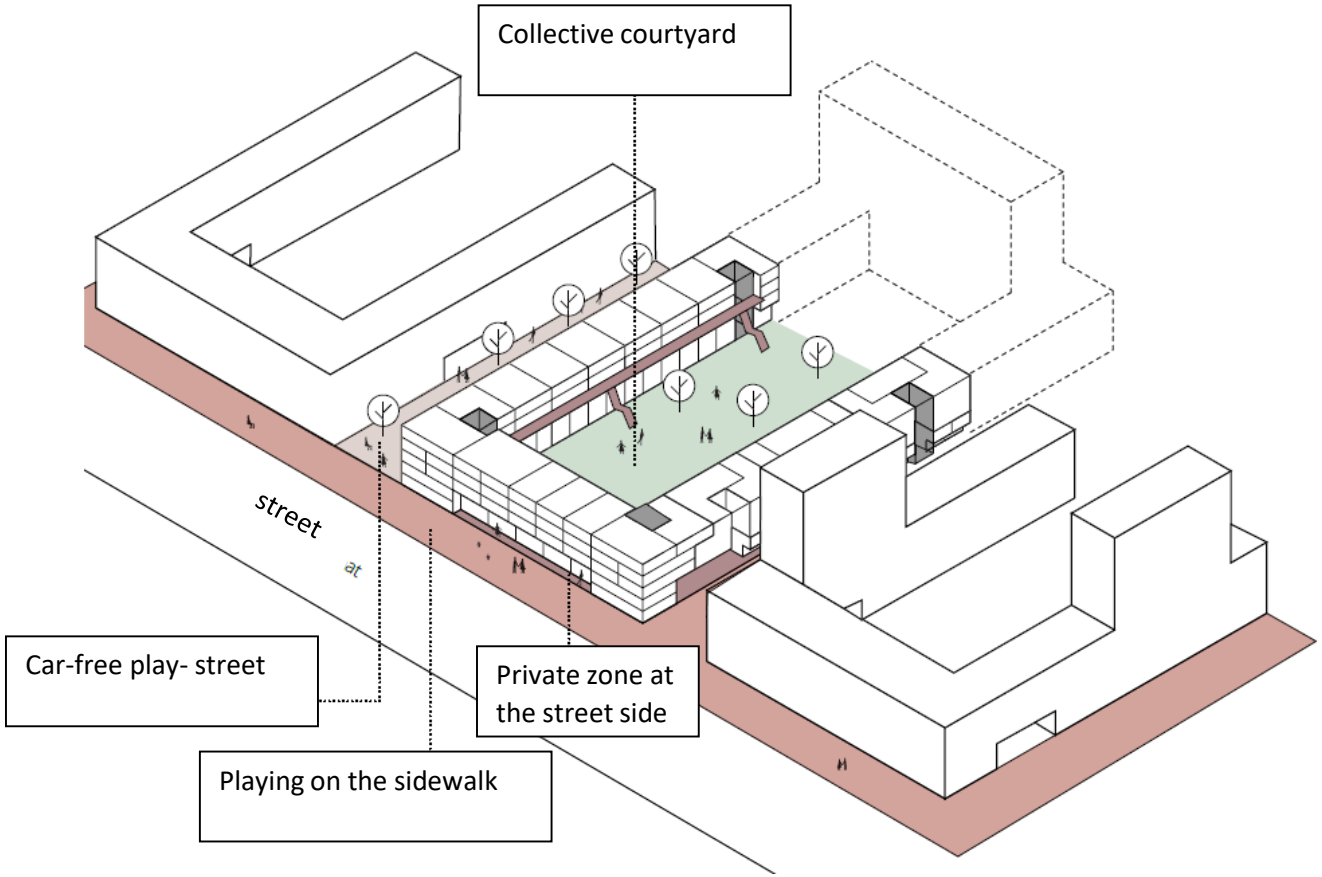
1. Living: dwelling must grow with child, building must stimulate encounters
2. Learning: challenge child to move out of personal boundaries
3. Playing: contributes to health, prevents obesity, makes children stronger and more social

CASE STUDIES: THE FAMILY

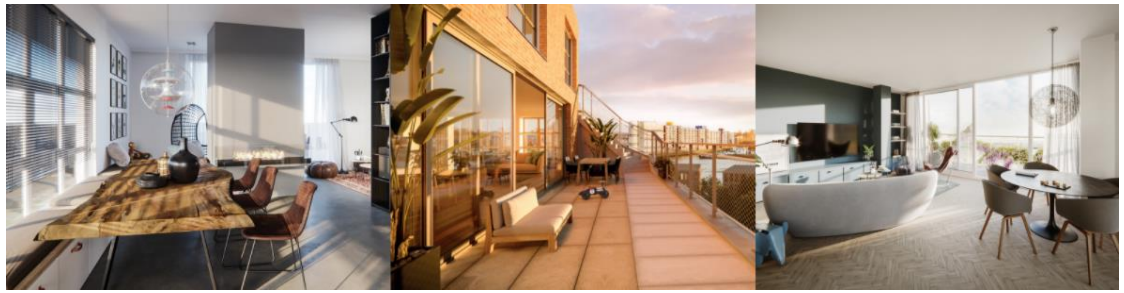


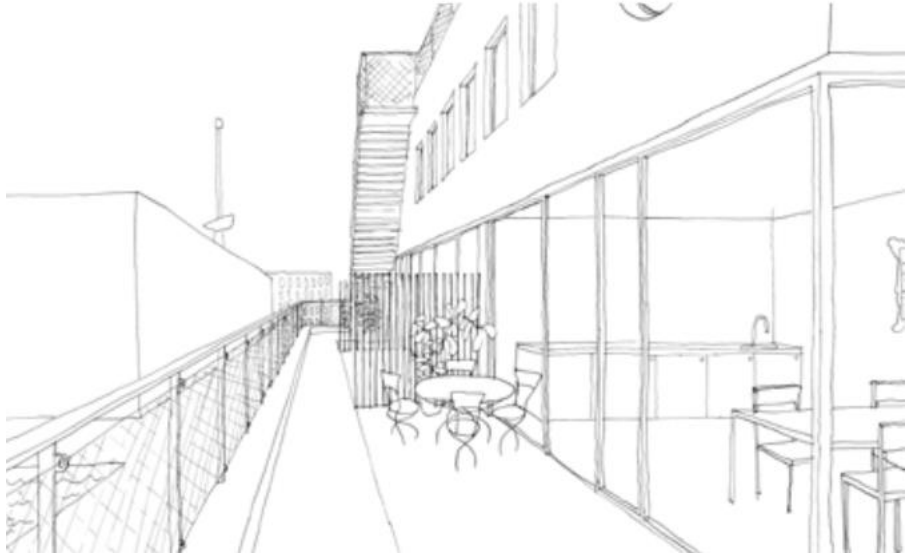
CASE STUDIES: MASIRA

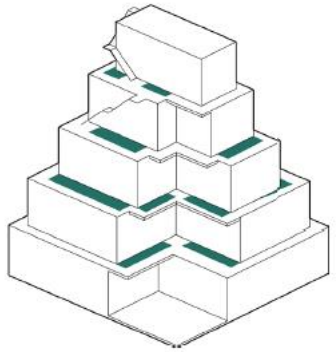
Location: Delfland, Amsterdam
Architect: ANA
Realised: 2004-2010
Dwellings: 106



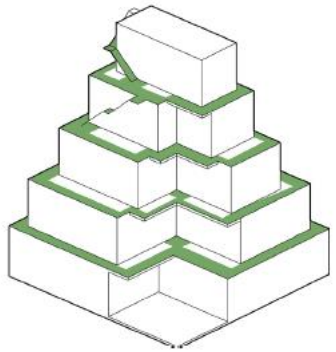
CASE STUDIES: BABEL







Private outdoor space



Gallery: informal meeting spaces

DESIGN BRIEF

Dwellings

- 62 dwellings
- 34-85m2
- adaptability in floorplan
- private outdoor space (balcony, gallery, terrace)

Building block

- Circulation
- Wide gallery of 3m to allow multiple uses like playing
- encounter points for chance encounter/meeting neighbours
- Supervision
- Comfort for parents
- PlayingPlayground in activity range (for all age groups: 0-4, 5-8 and 9-12 years old)

Facilities

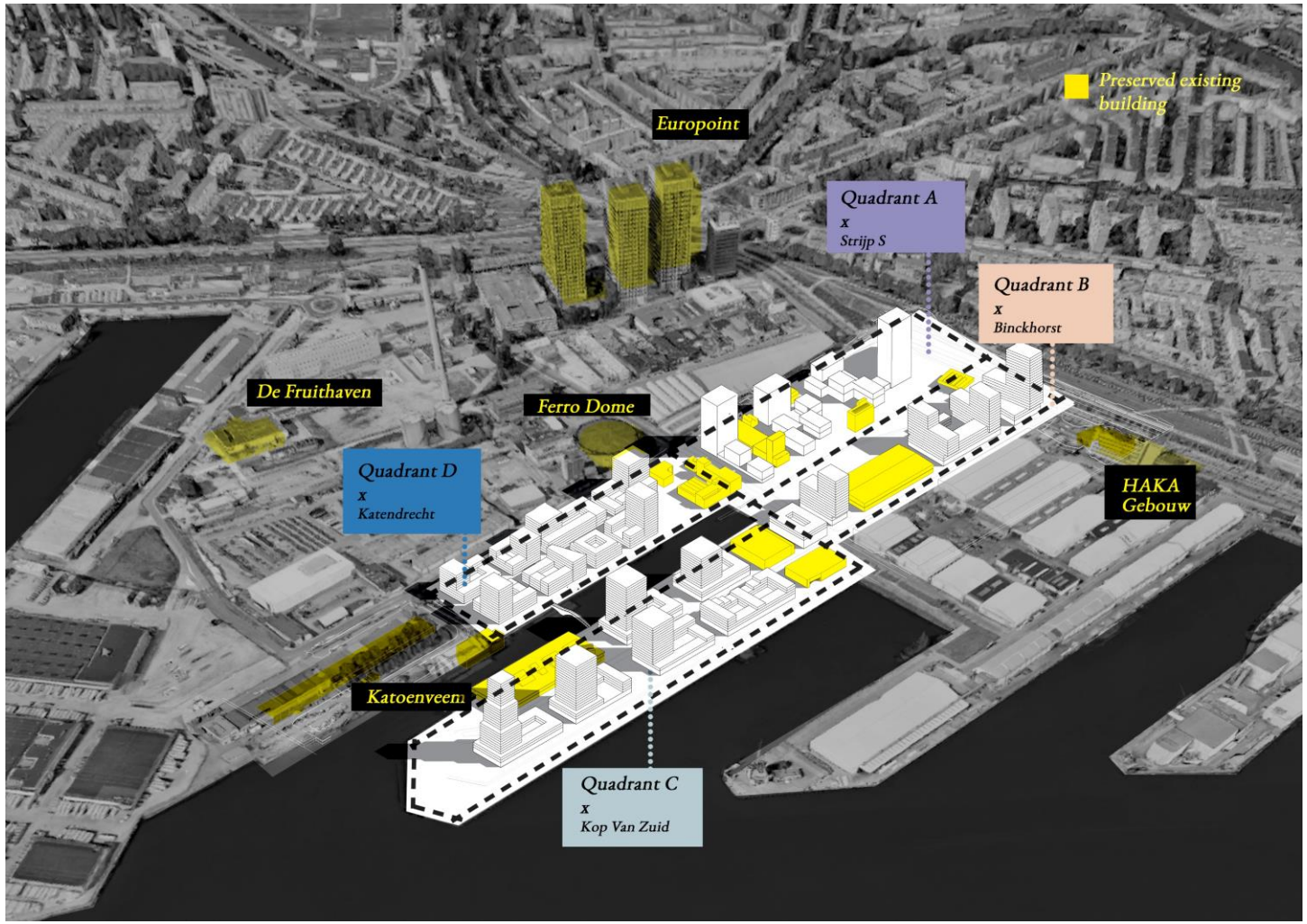
- Laundry facilities
- 2 Small shops
- Day care
- Parking (40*0,6 & 0,4= 18 parking spaces)
- Bicycle parking

LOCATION M4H AREA, ROTTERDAM, NETHERLANDS

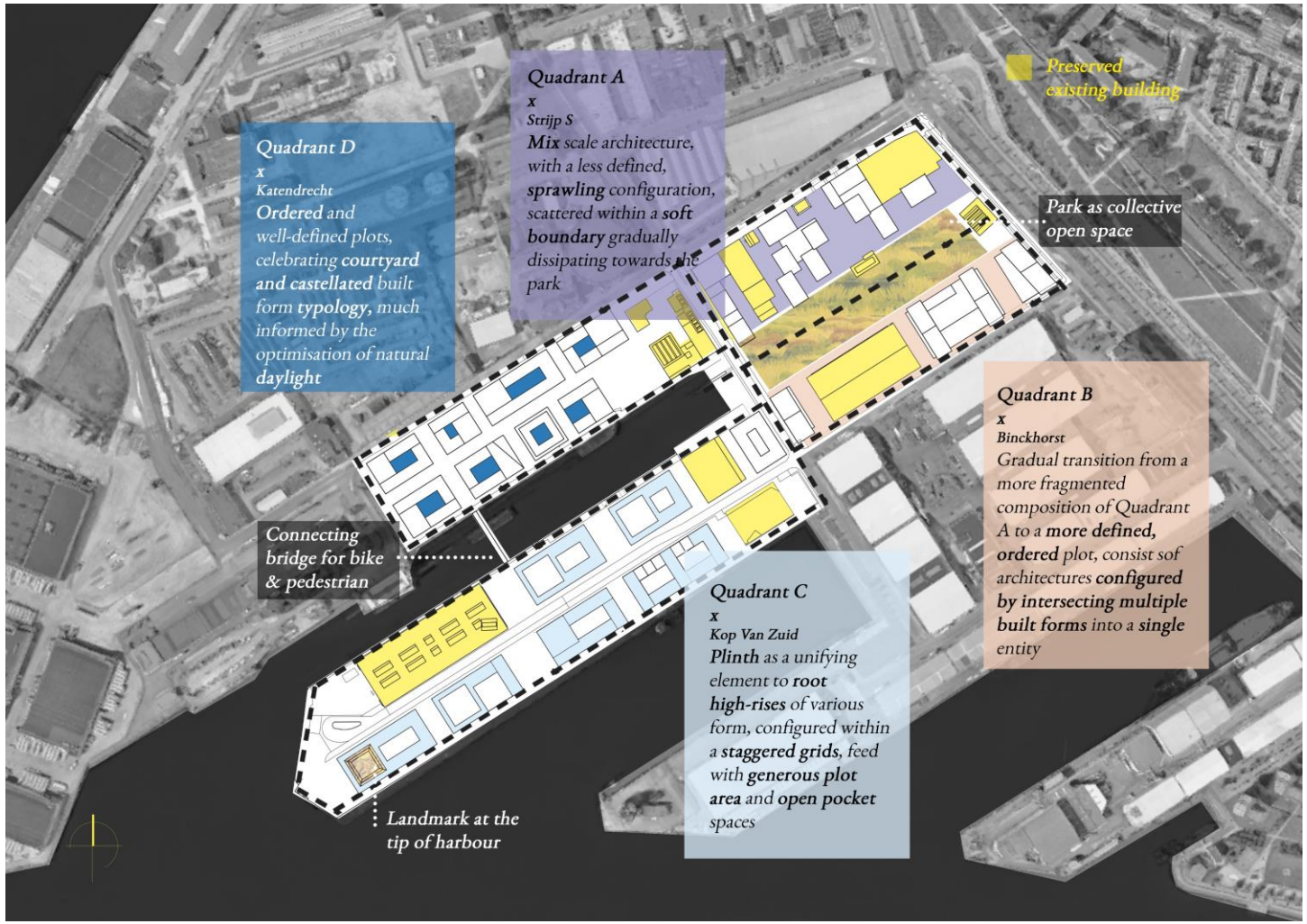
MASTERPLAN


LEGEND
plot border
obligatory facade
facade can't cross this line
possible overhang
commercial ground floor
plot number
building's max. height
tower placement
residential
workspace
existing building
green/open space

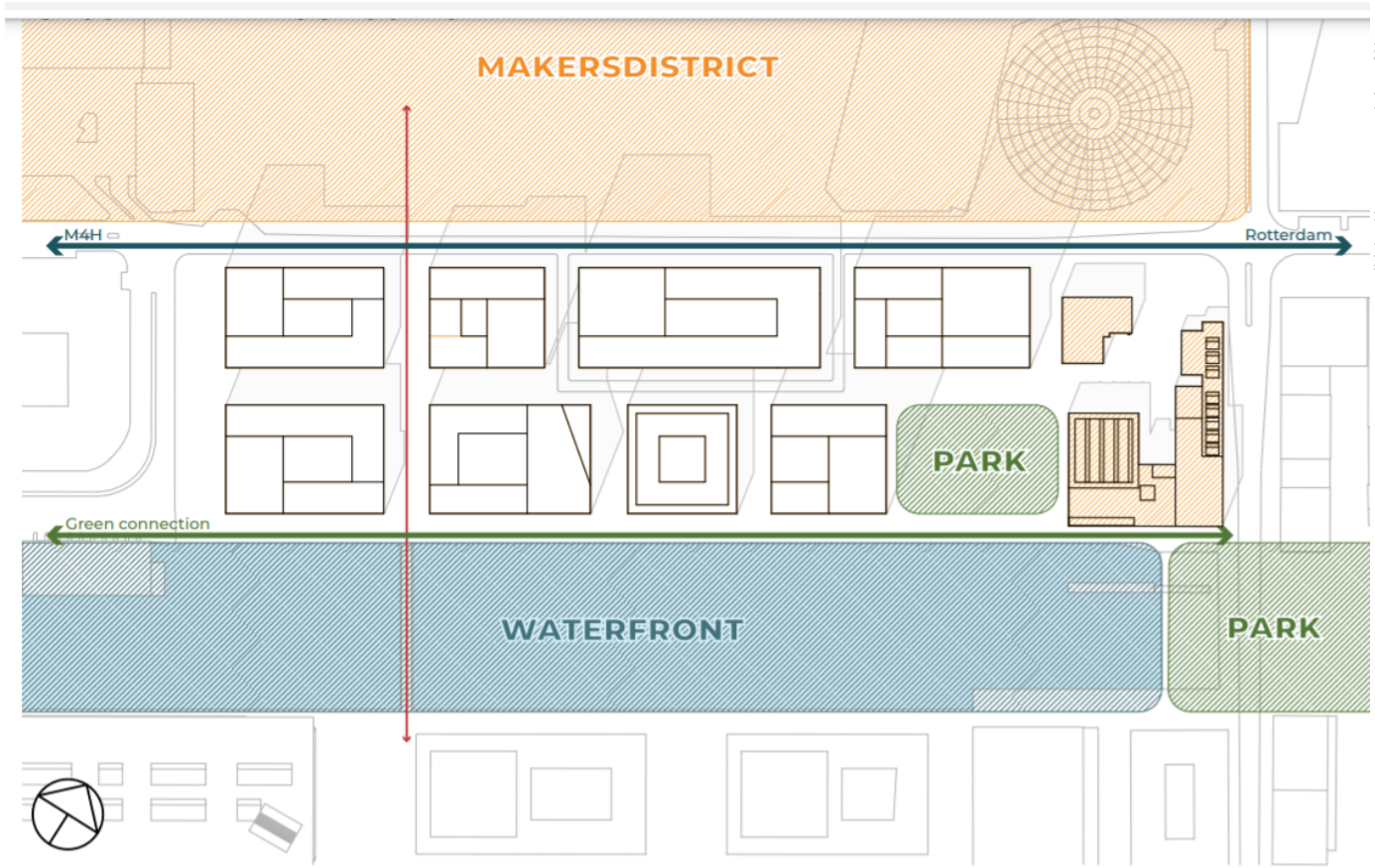
MASTERPLAN – OVERVIEW

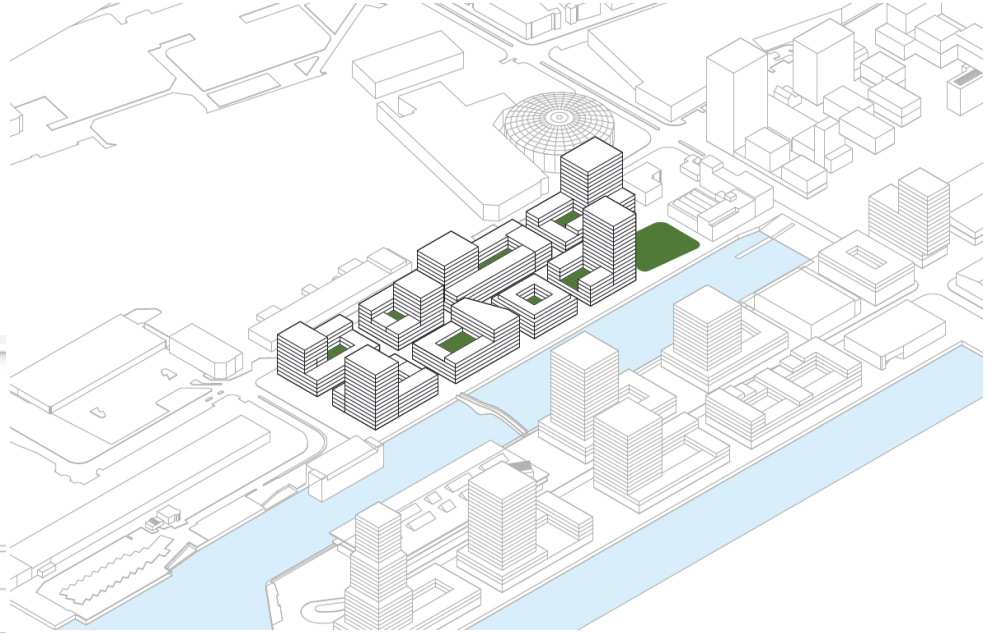


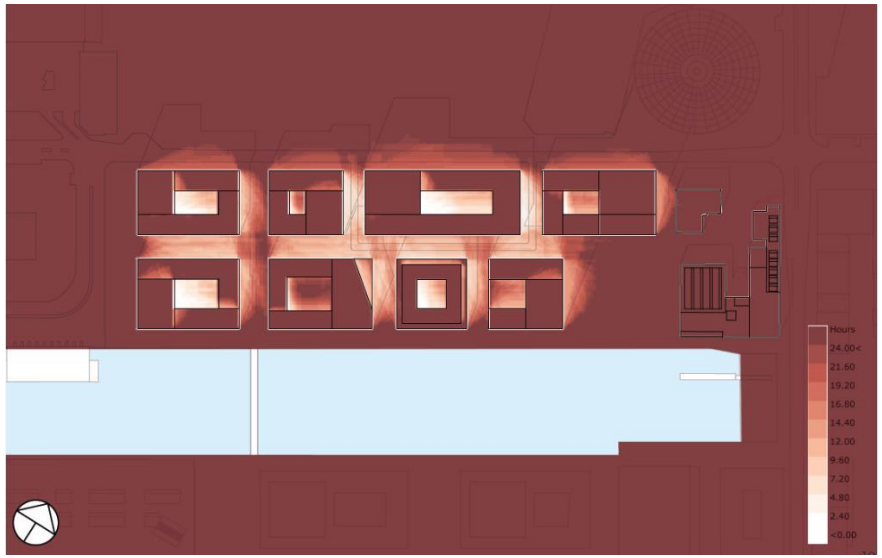
MASTERPLAN


Quadrant A
x
Strijp S
Mix scale architecture, with a less defined, sprawling configuration, scattered within a soft boundary gradually dissipating towards the park
Preserved existing building
Quadrant D
x
Katendrecht
Ordered and well-defined plots, celebrating courtyard and castellated built form typology, much informed by the optimisation of natural daylight
Park as collective open space
Quadrant B
x
Binckhorst
Gradual transition from a more fragmented composition of Quadrant A to a more defined, ordered plot, consist sof architectures configured by intersecting multiple built forms into a single entity
Connecting bridge for bike & pedestrian
Quadrant C
x
Kop Van Zuid
Plinth as a unifying element to root high-rises of various form, configured within a staggered grids, feed with generous plot area and open pocket spaces
Landmark at the tip of harbour

MASTERPLAN CLUSTER D

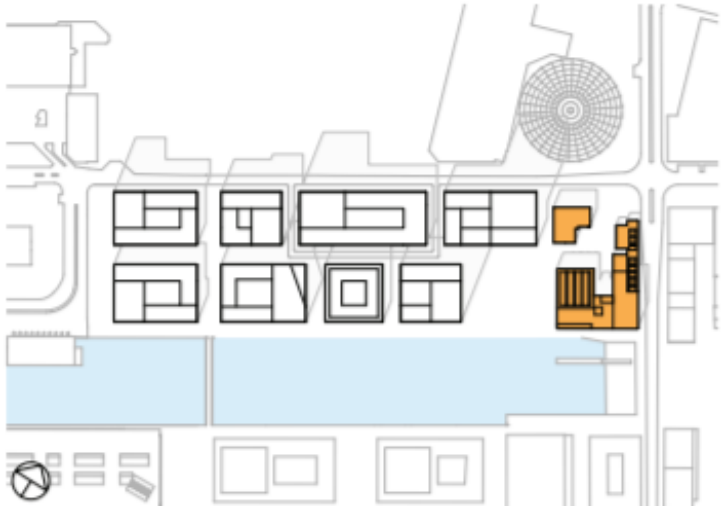




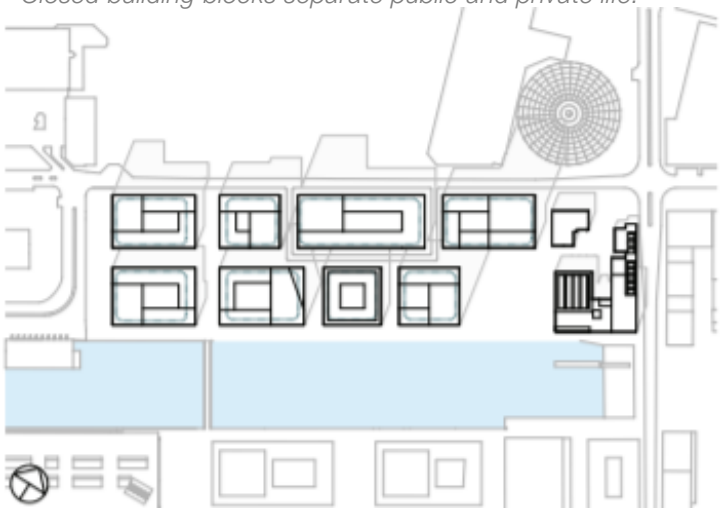


MASTERPLAN CLUSTER D

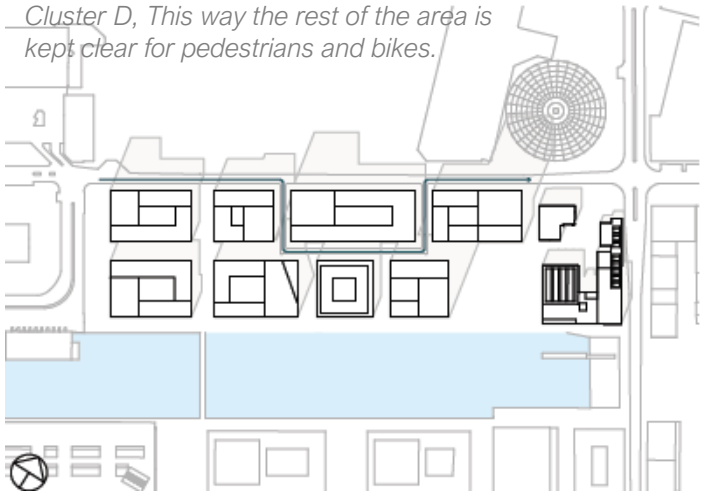
Existing cultural hub will be kept.



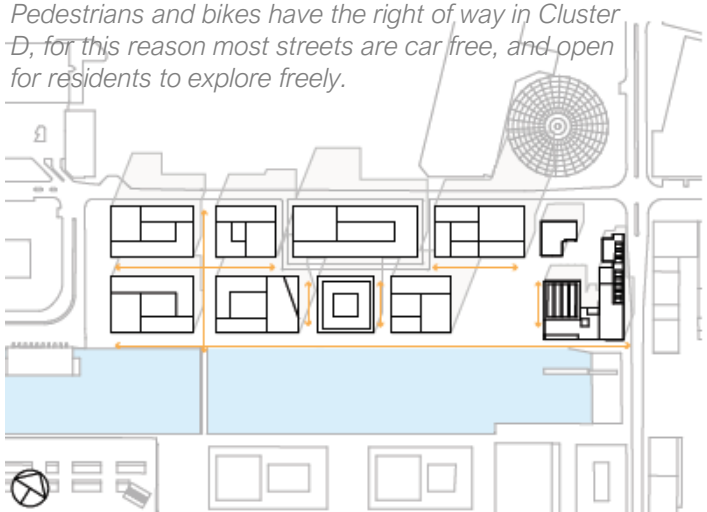
Closed building blocks separate public and private life.



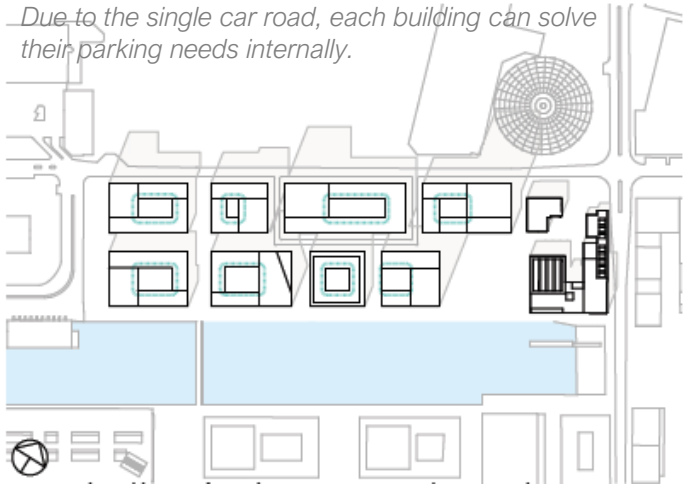
A single car road connects all buildings in Cluster D, This way the rest of the area is kept clear for pedestrians and bikes.



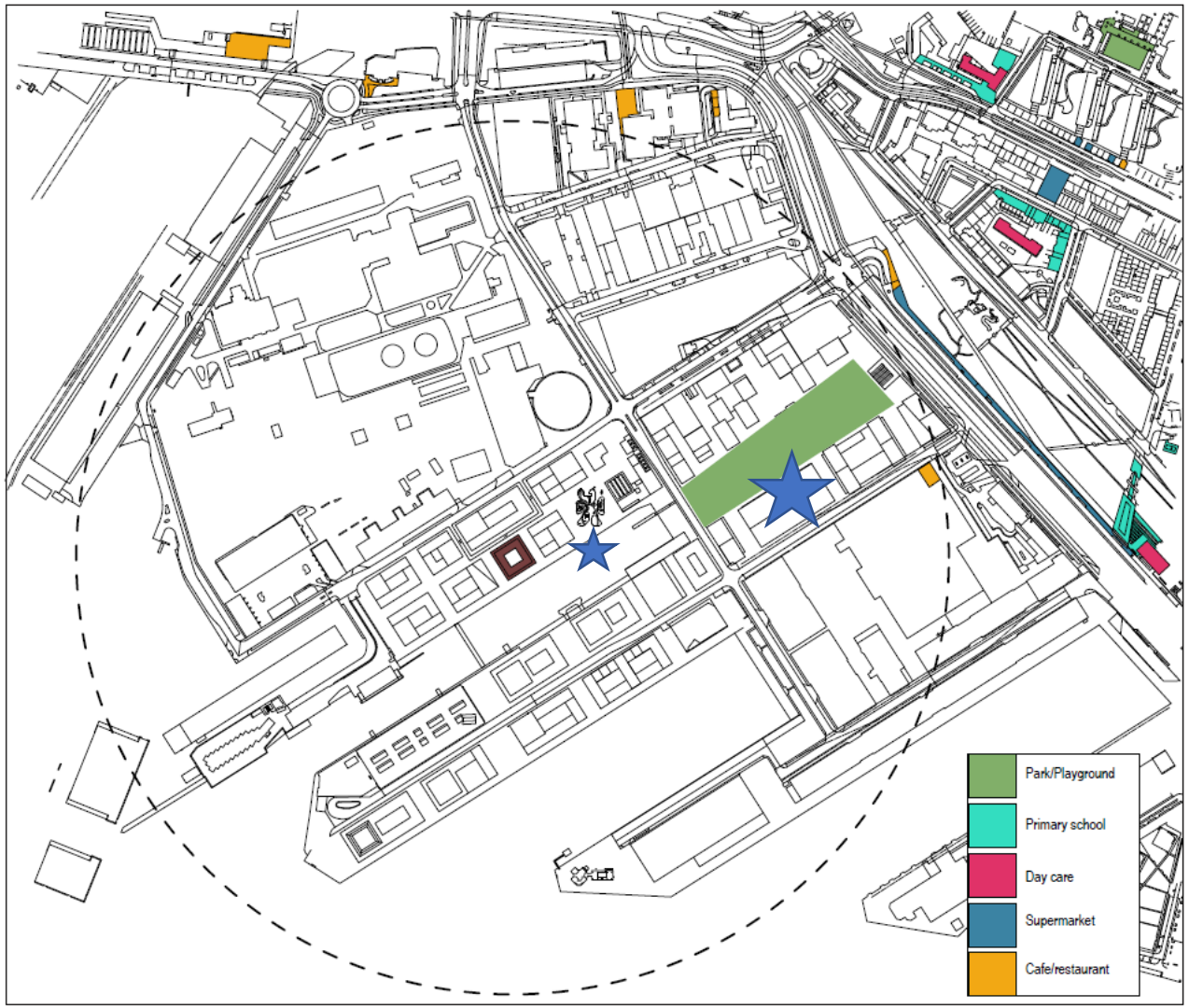
Pedestrians and bikes have the right of way in Cluster D, for this reason most streets are car free, and open for residents to explore freely.



Due to the single car road, each building can solve their parking needs internally.

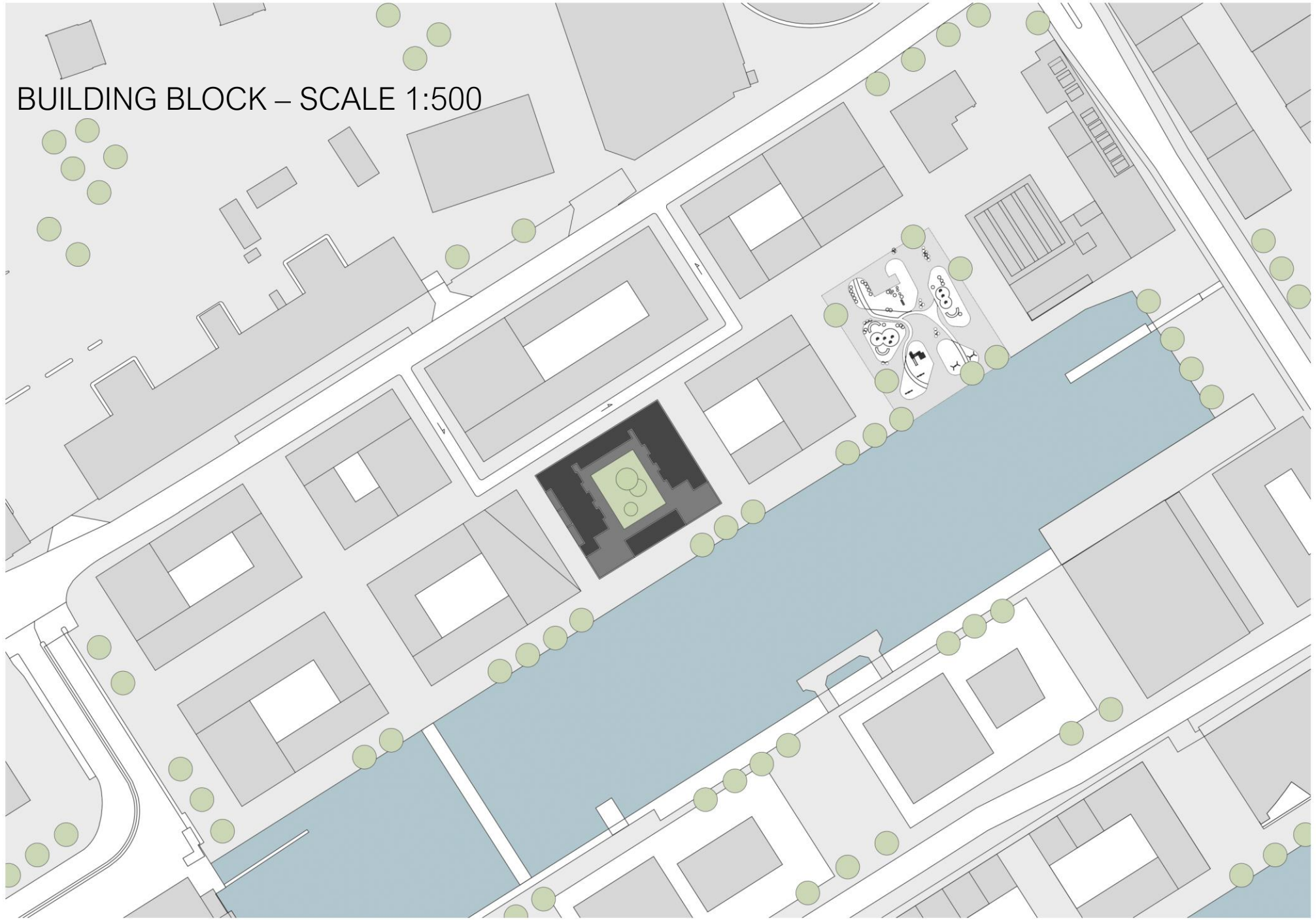


DESIGN CONCEPT – LOCATION ANALYSIS



A playground, daycare and supermarket will be added to the building, since these are out of the activity range.

BUILDING BLOCK – SCALE 1:500



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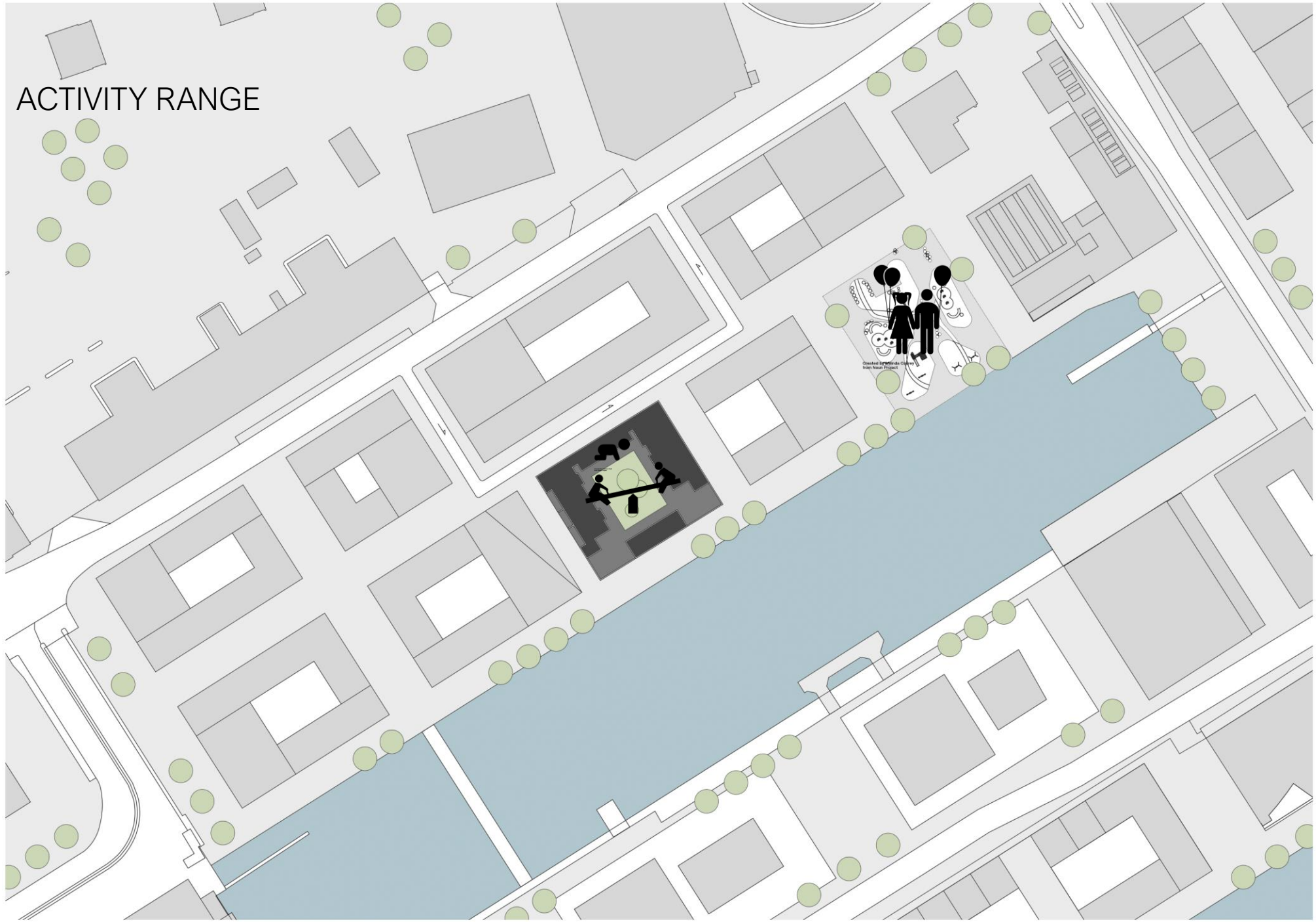
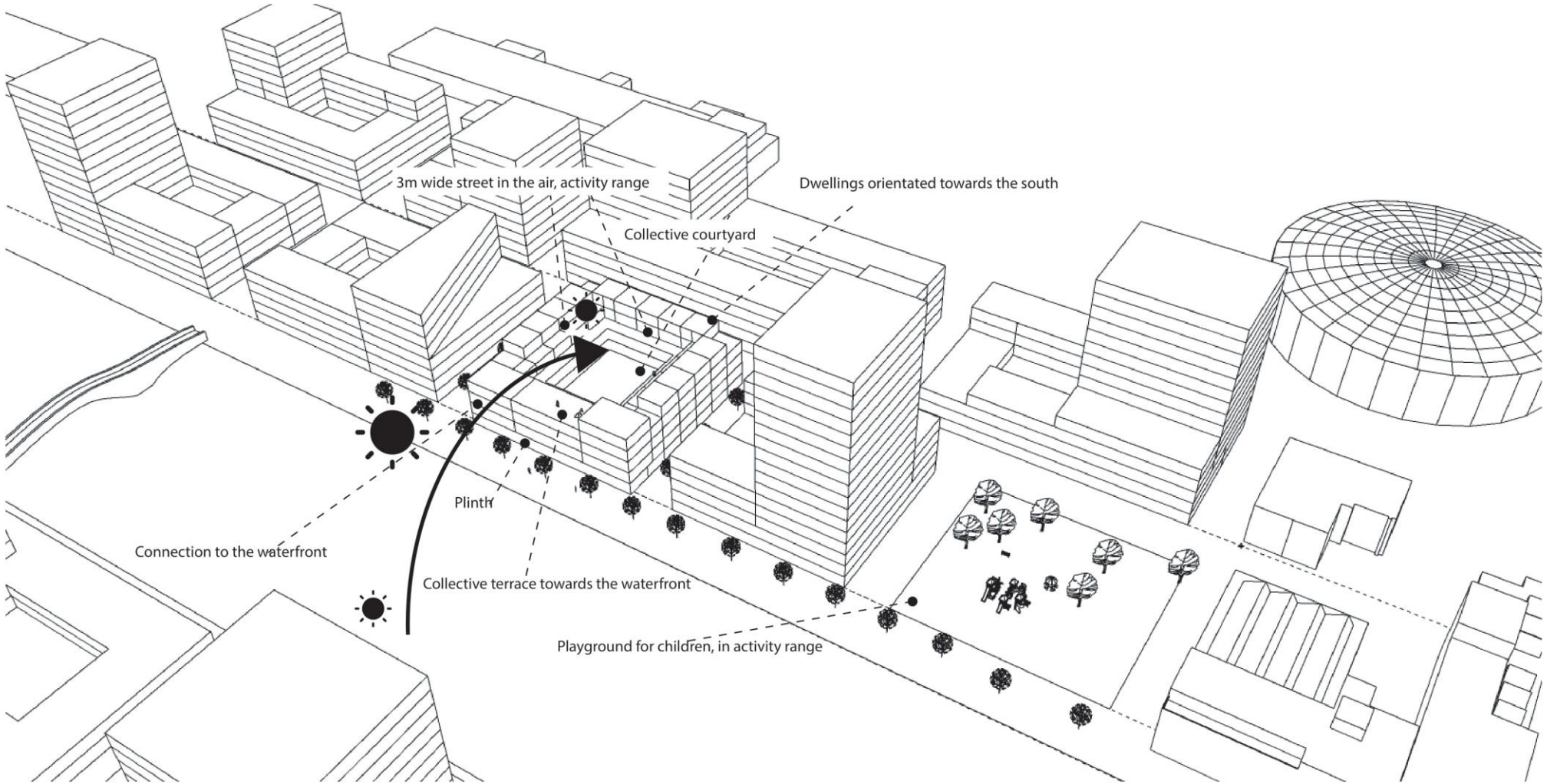
ACTIVITY RANGE

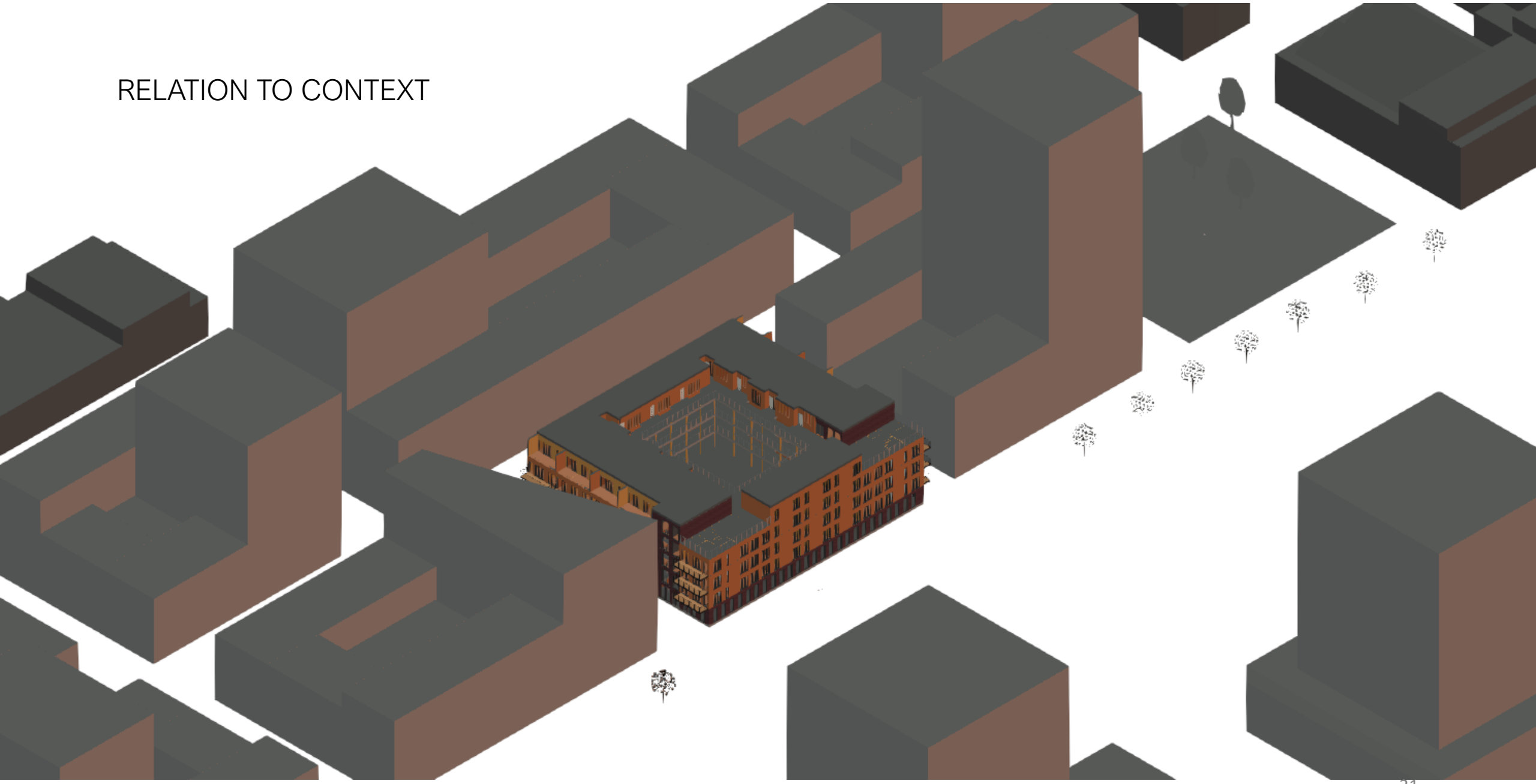


N

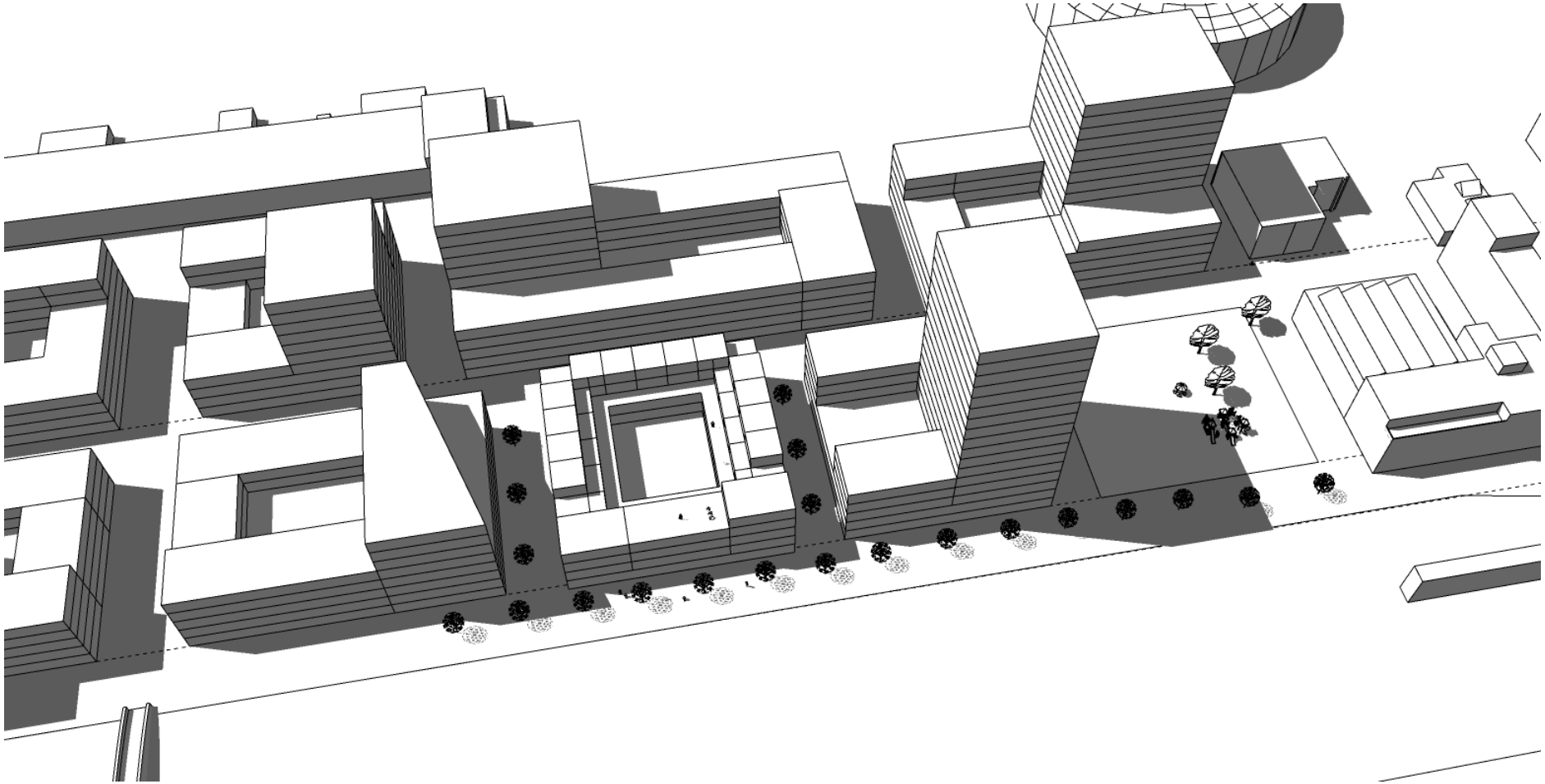
URBAN CONCEPT



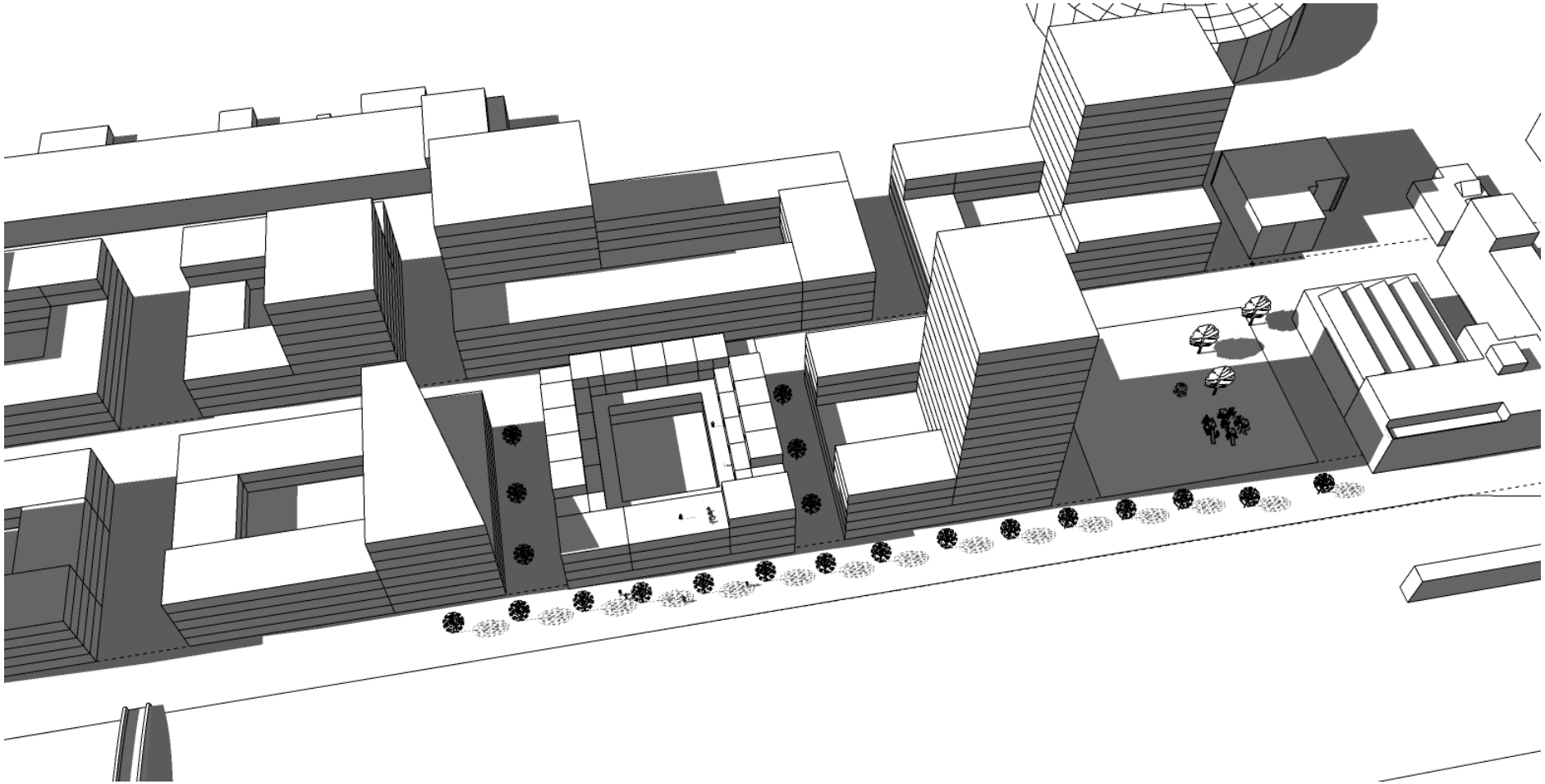
RELATION TO CONTEXT



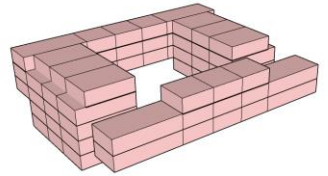
SUN ANALYSIS - MARCH 18TH 15:00 O'CLOCK

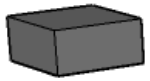


SUN ANALYSIS – NOVEMBER 18TH 15:00 O'CLOCK



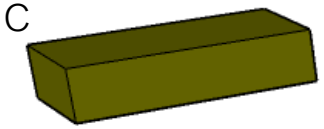
BUILDING BLOCK – PROGRAM : 62 DWELLINGS AND COLLECTIVE FACILITIE

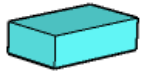




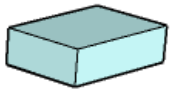
Single parents house

Type C

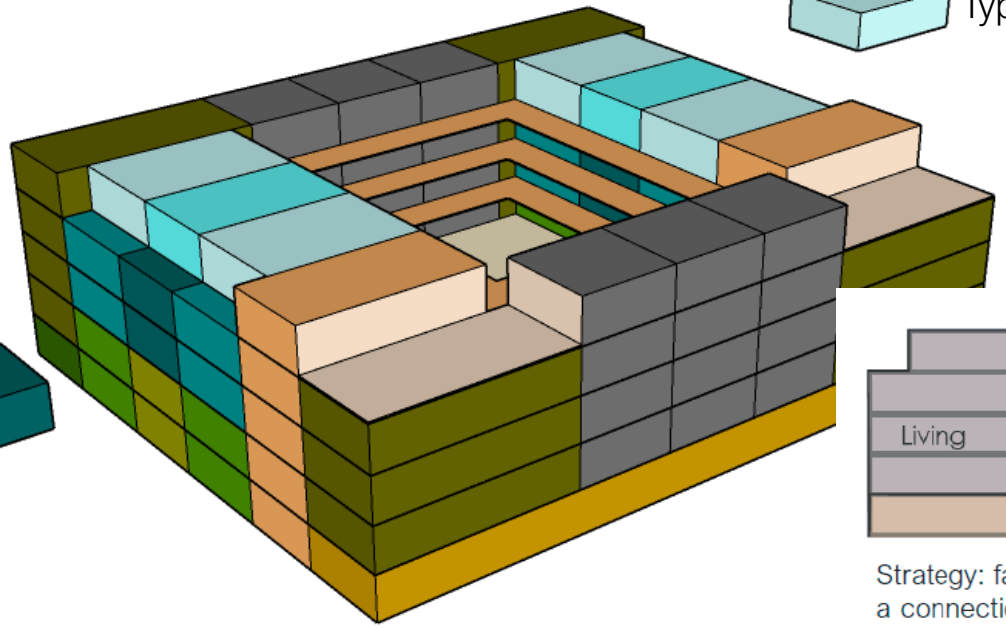




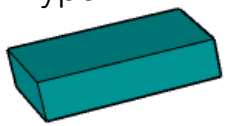
Type B2



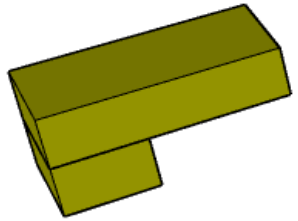
Type B1

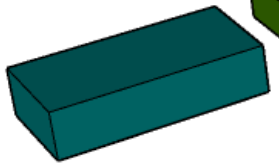


Type B1

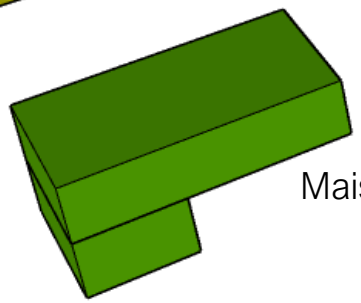


Maisonette type A

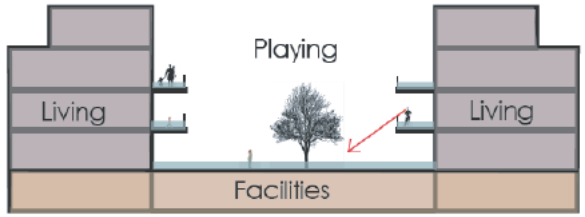




Type A1

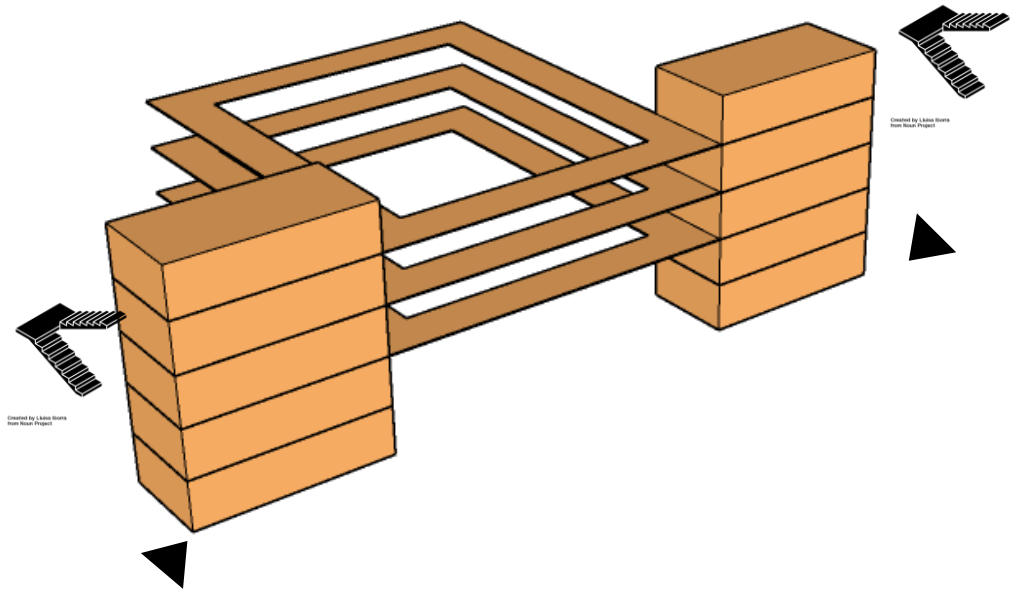


Maisonette type B

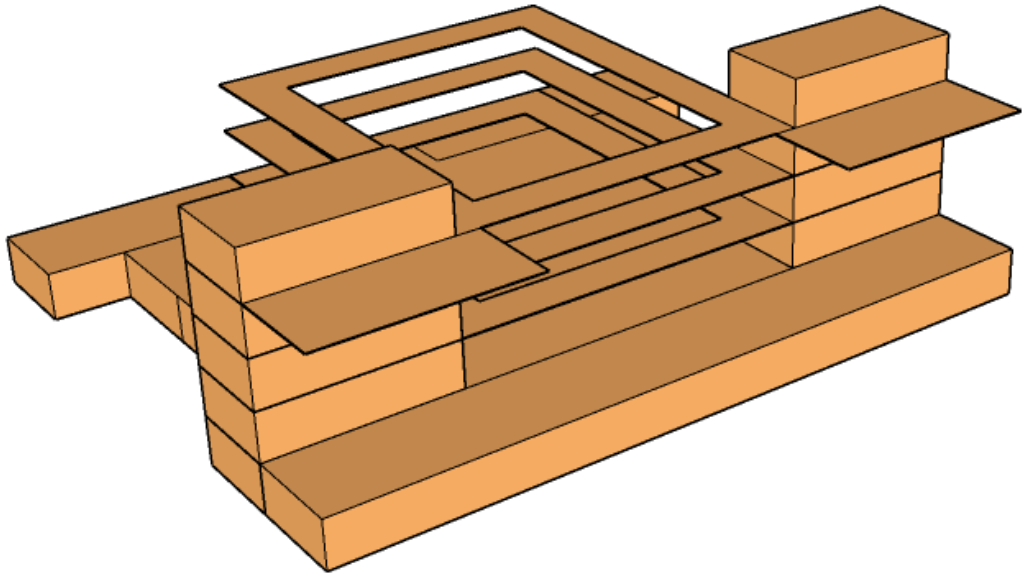


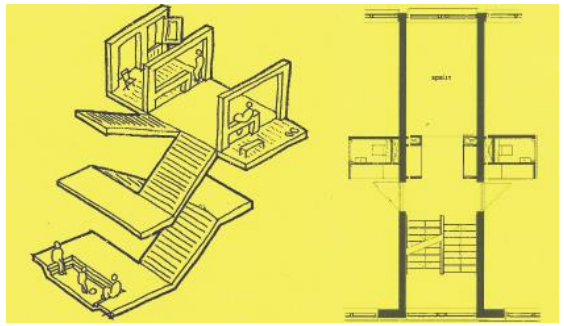
Strategy: facilities are placed on the ground floor, making a connection with the street, park and waterfront. These facilities are open to public. On the first floor till fourth floor there are family dwellings. The courtyard is semi-public and is a play space for children, together with the gallery. The kitchen/dinner area is faced towards the gallery, making supervision possible. Also, there are no hallways, so the dwelling is in direct contact with the gallery.

BUILDING BLOCK – CIRCULATION



BUILDING BLOCK - COLLECTIVITY





Connection between public and private
(Keesom, 2016)

Ground floor + first floor

N

Ground floor + first floor

N

TRANSITION ZONE AND GALLERY

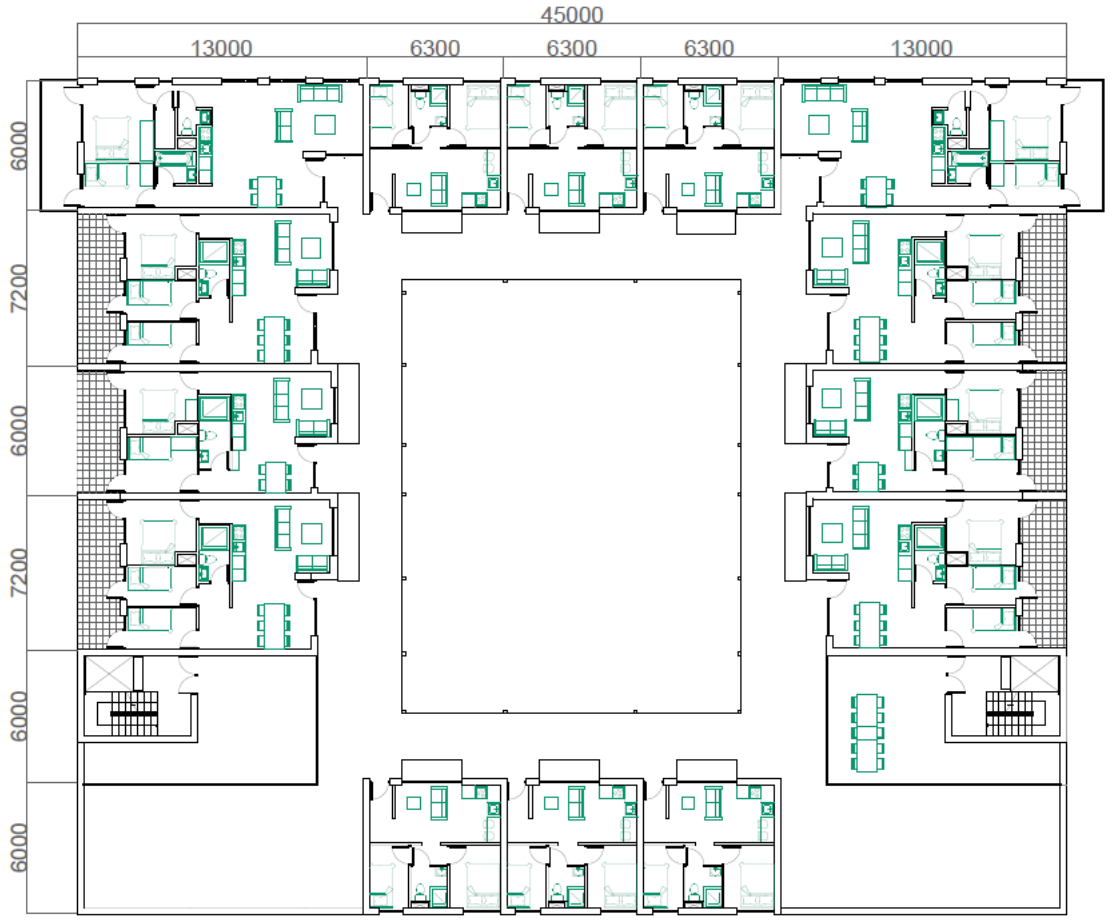
N

SECOND + THIRD FLOOR

N

IMPRESSION COURTYARD AND GALLERY

FOURTH FLOOR

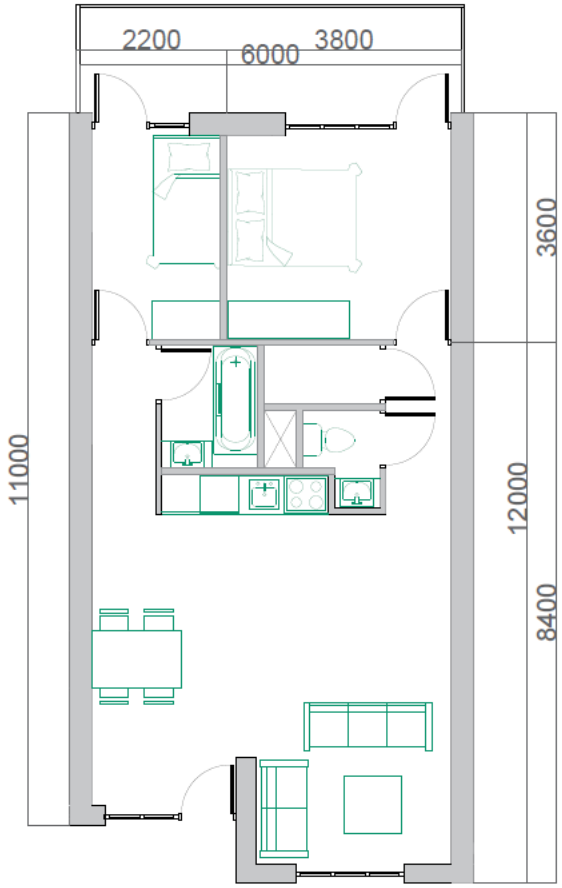


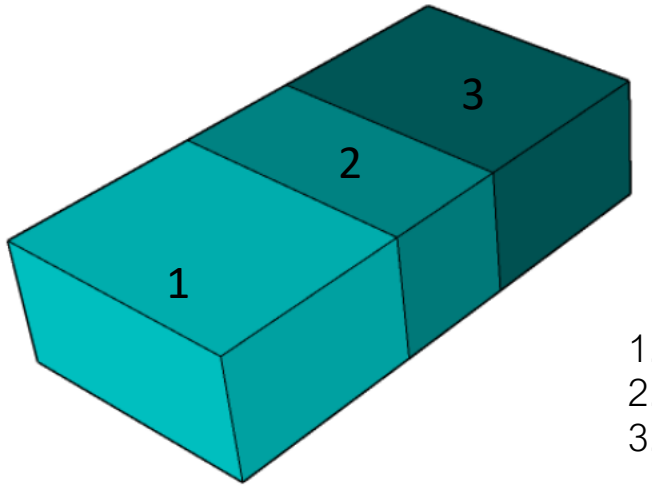
N

IMPRESSION ROOFTOP

COLLECTIVE ROOM

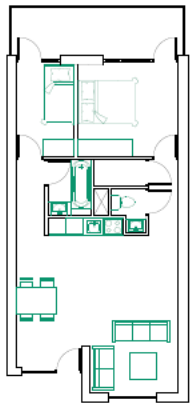
DWELLING CONCEPT

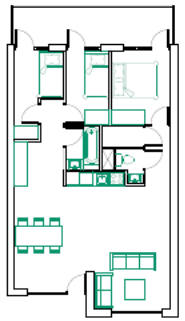


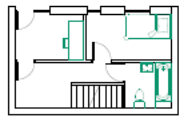


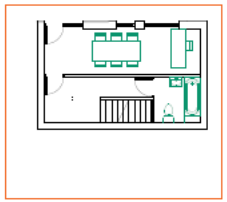
1. Collective
2. Fixed elments
3. Private

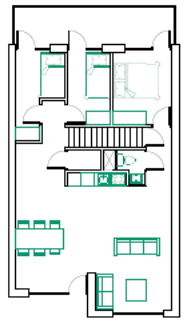
DWELLINGS – 8 TYPOLOGIES

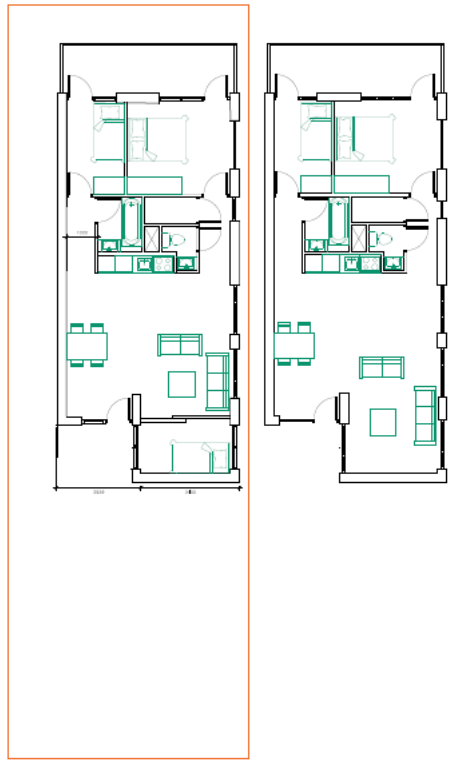


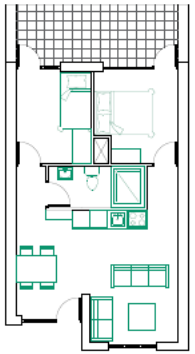


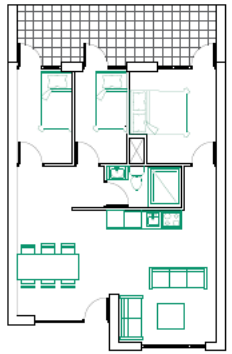


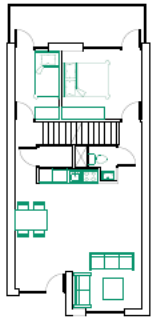


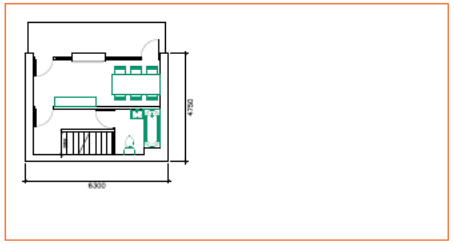




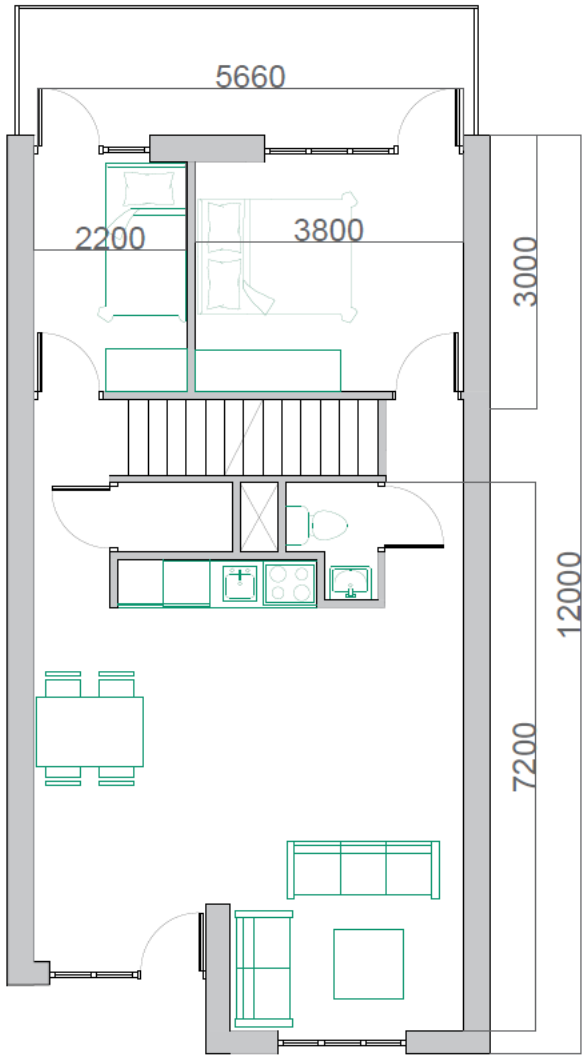


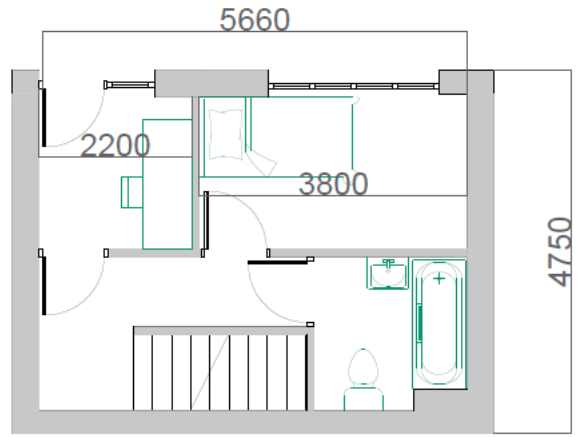


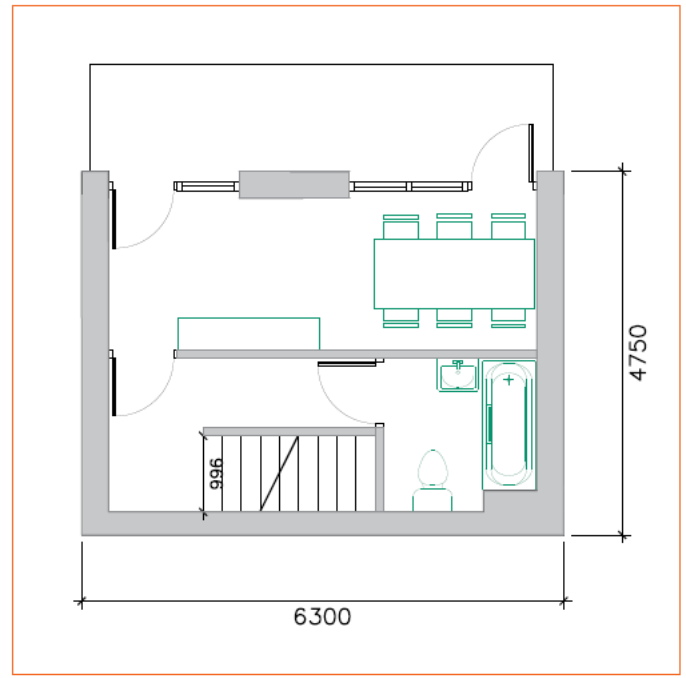


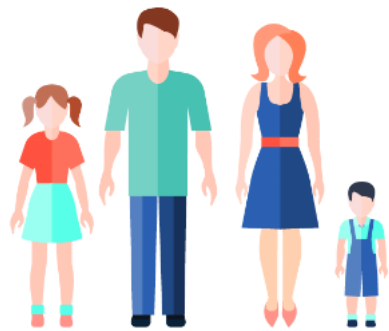


MAISONETTE TYPE A

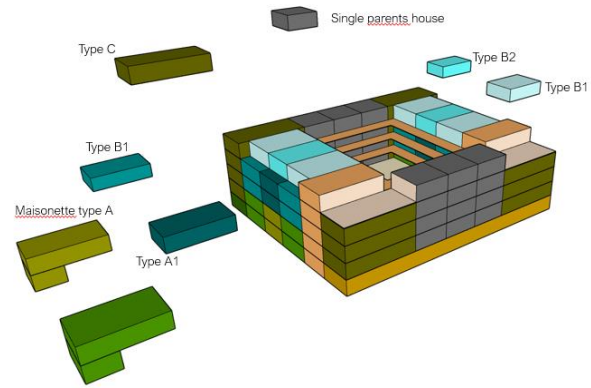






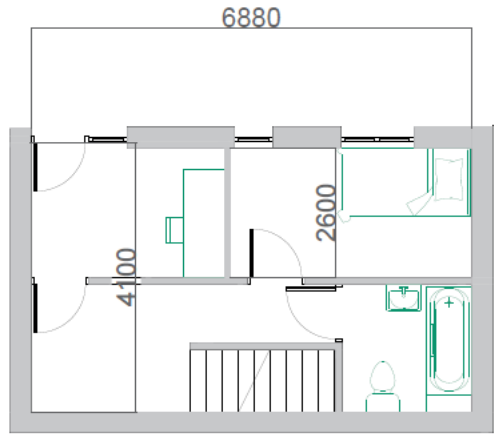


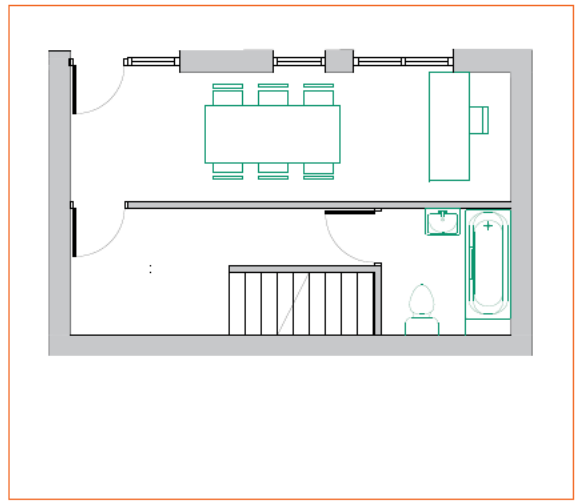
- 2 dwellings
- 84m2

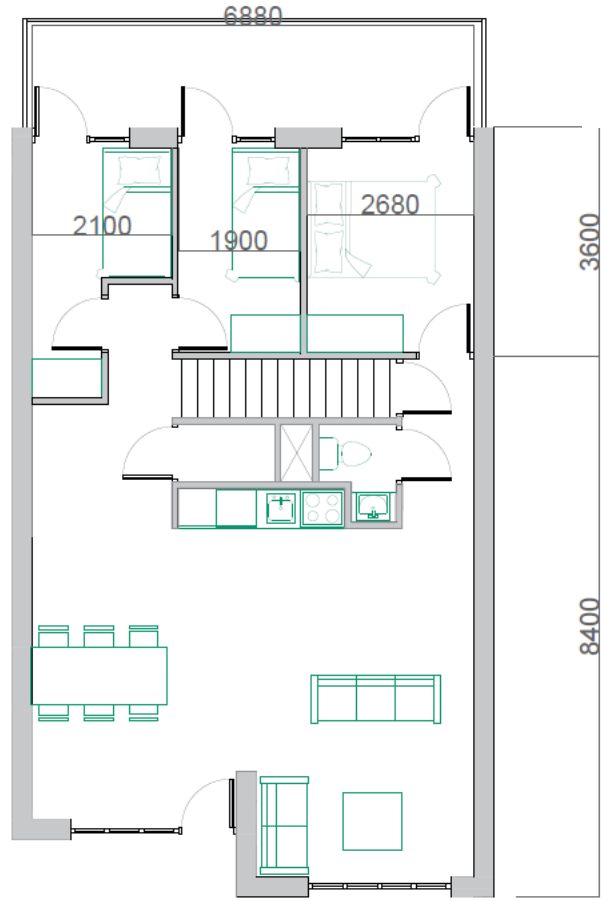


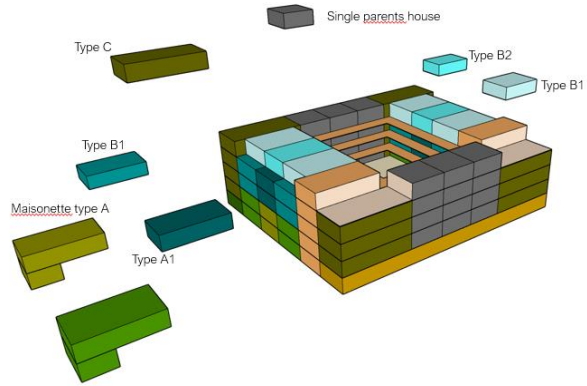
N

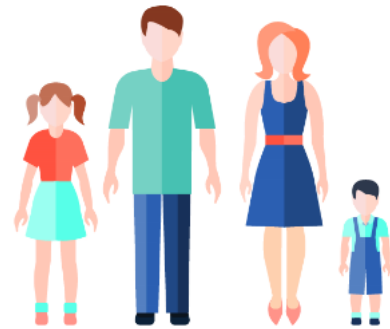
MAISONETTE TYPE B









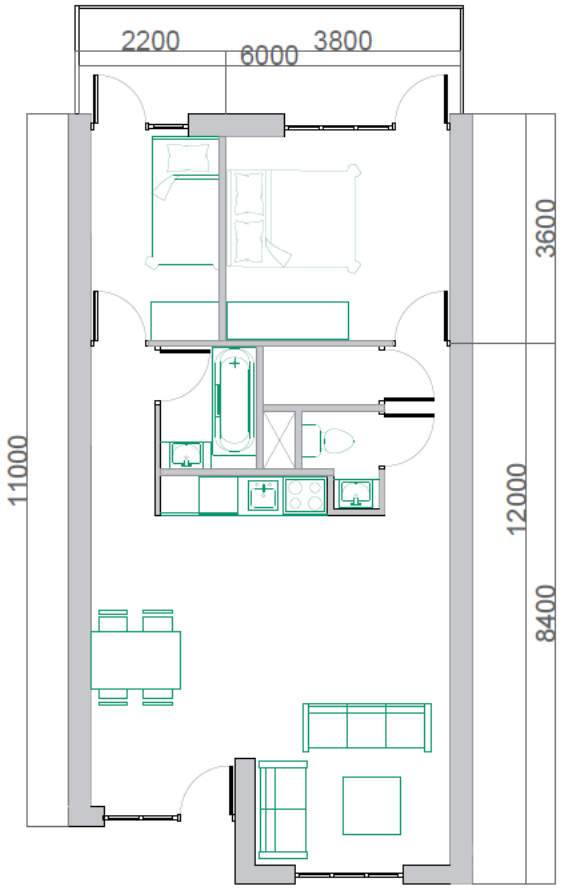


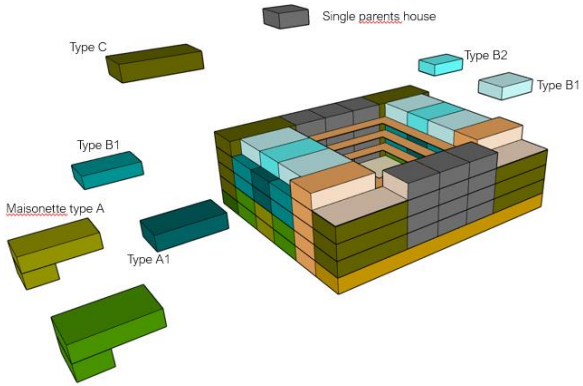
- 4 dwellings
- 102 m2

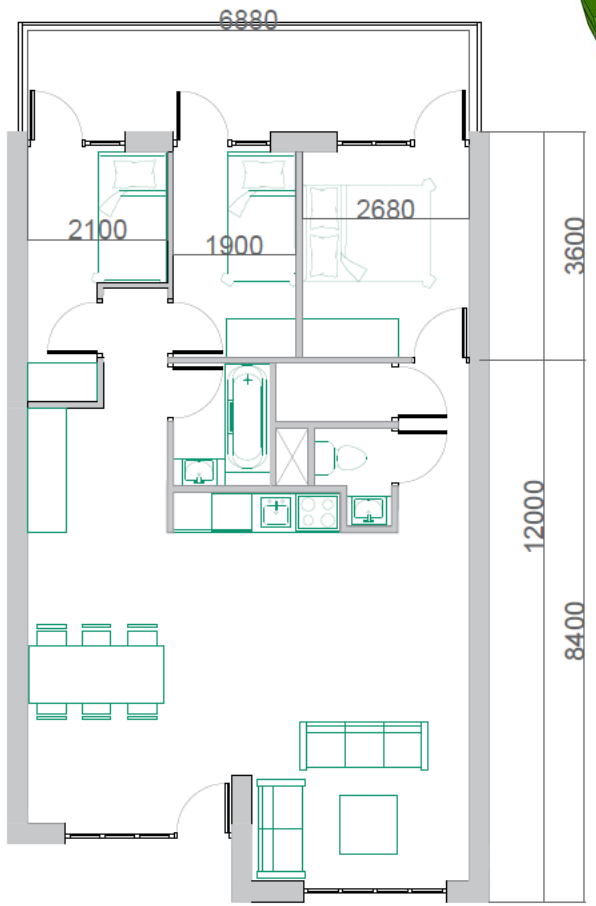
N

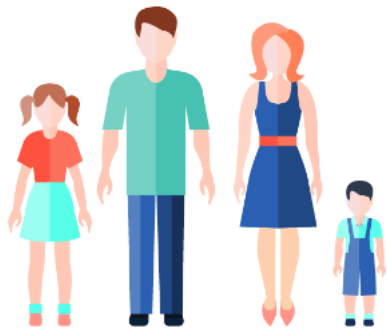
FAMILY APARTMENT TYPE A1 & TYPE B1

- 4 dwellings
- 61m2





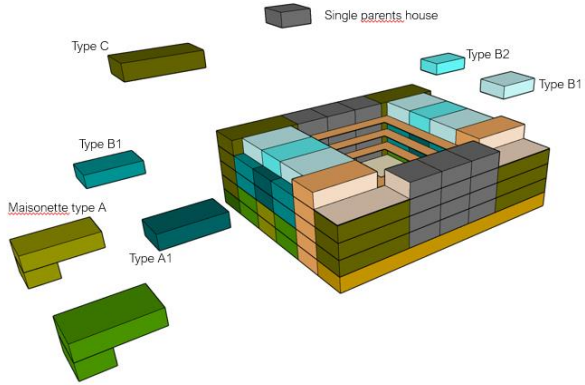




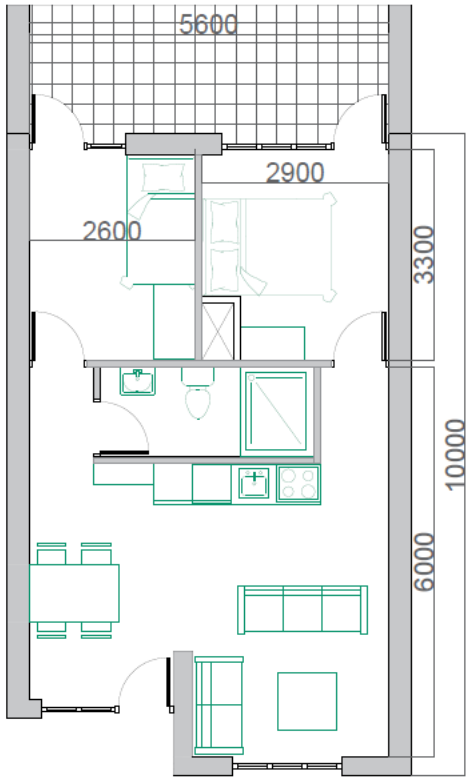
- 8 dwellings
- 75m2

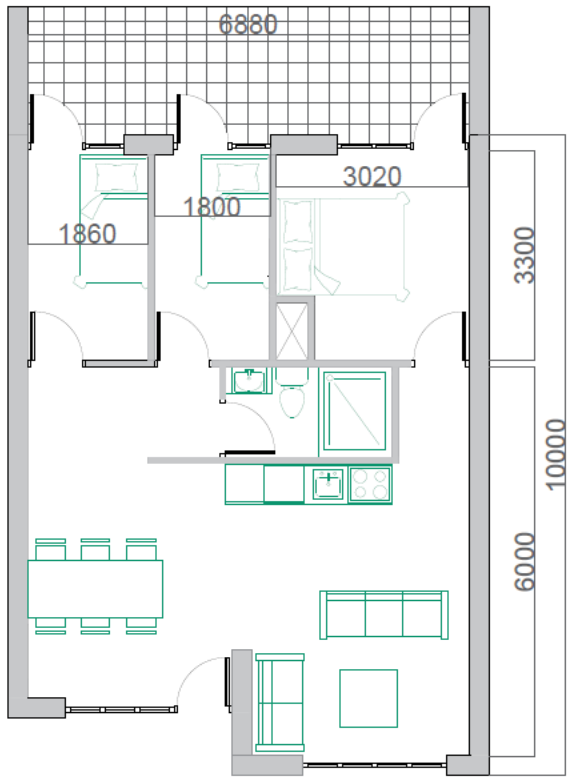
N

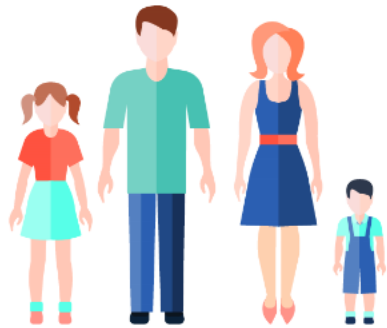
FAMILY APARTMENT TYPE A2 & B2



- 2 dwellings
- 50m2



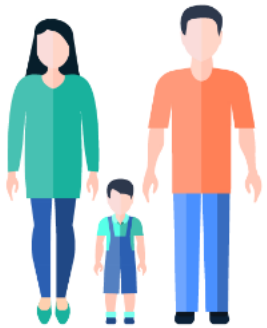




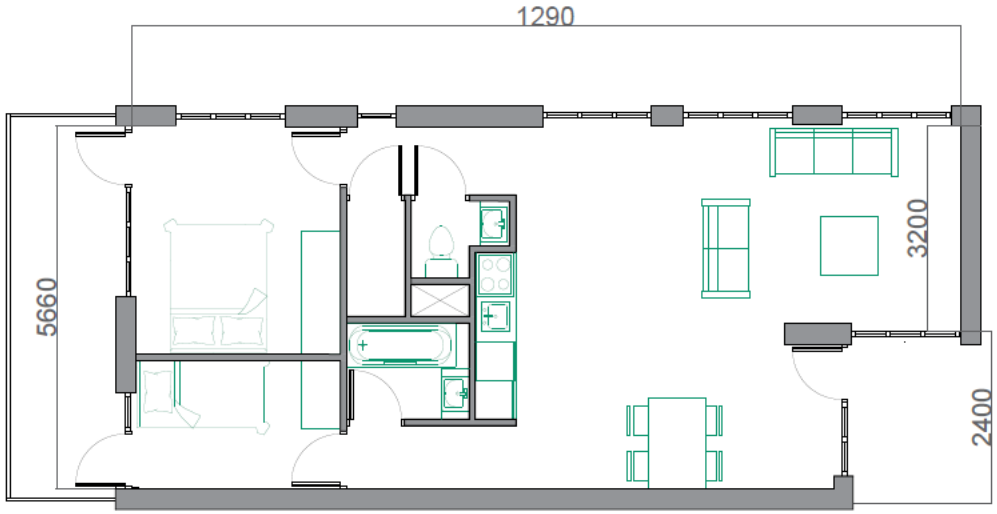
- 4 dwellings
- 61m2

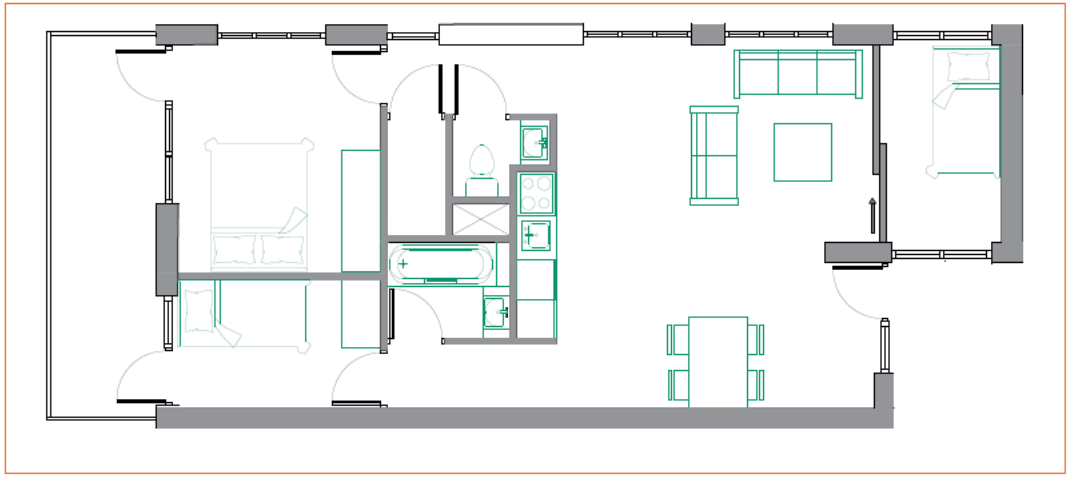
N

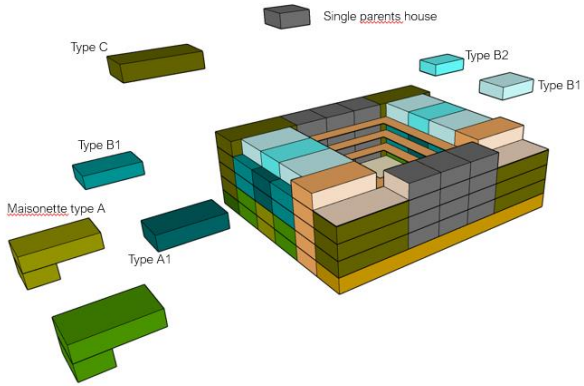
FAMILY APARTMENT TYPE C



- 14 dwellings
- 67m2

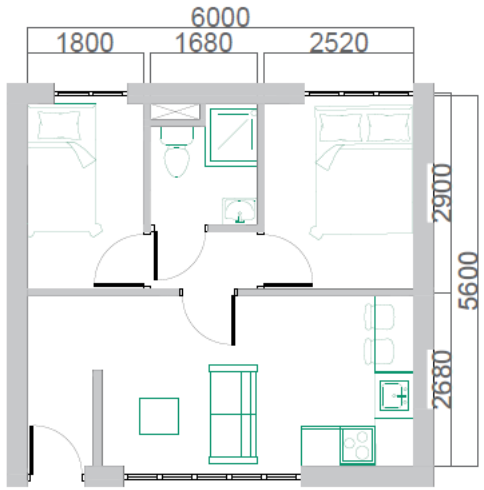




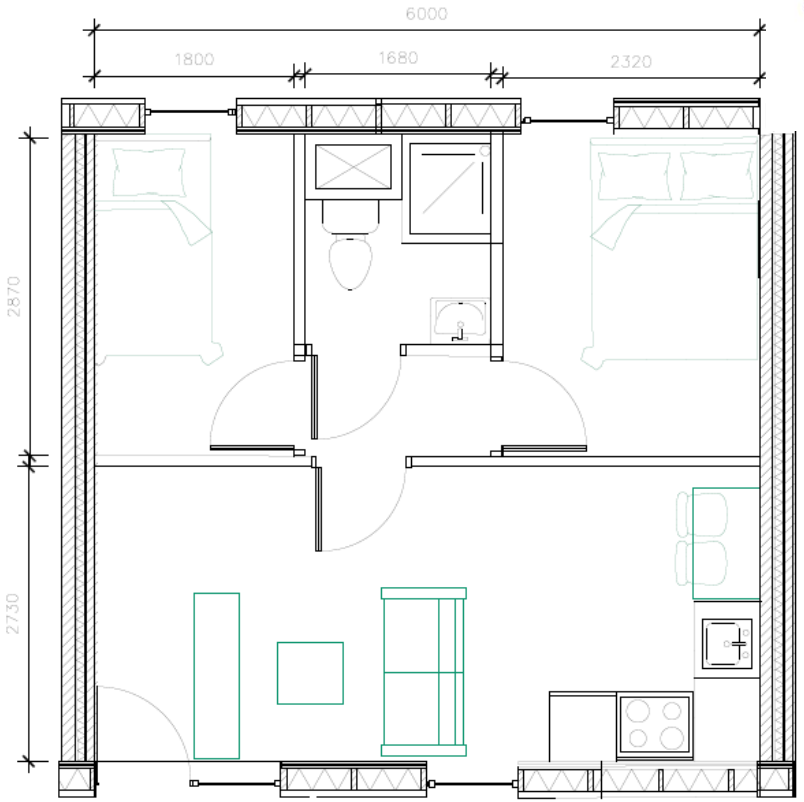


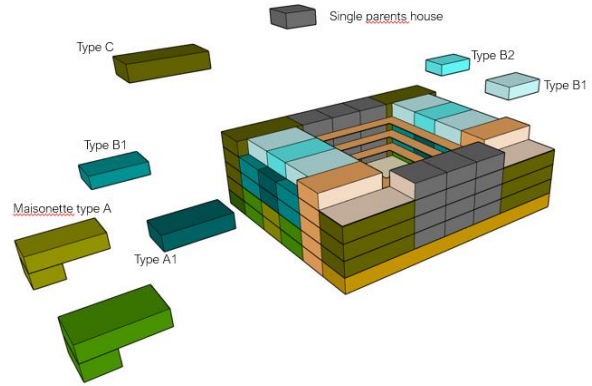
N

SINGLE PARENTS HOUSE



- 24 dwellings
- 34m2





SECTION

JUSTUS VAN EFFENCOMPLEX, ROTTERDAM

SUPERVISION

FACADES

South East elevation

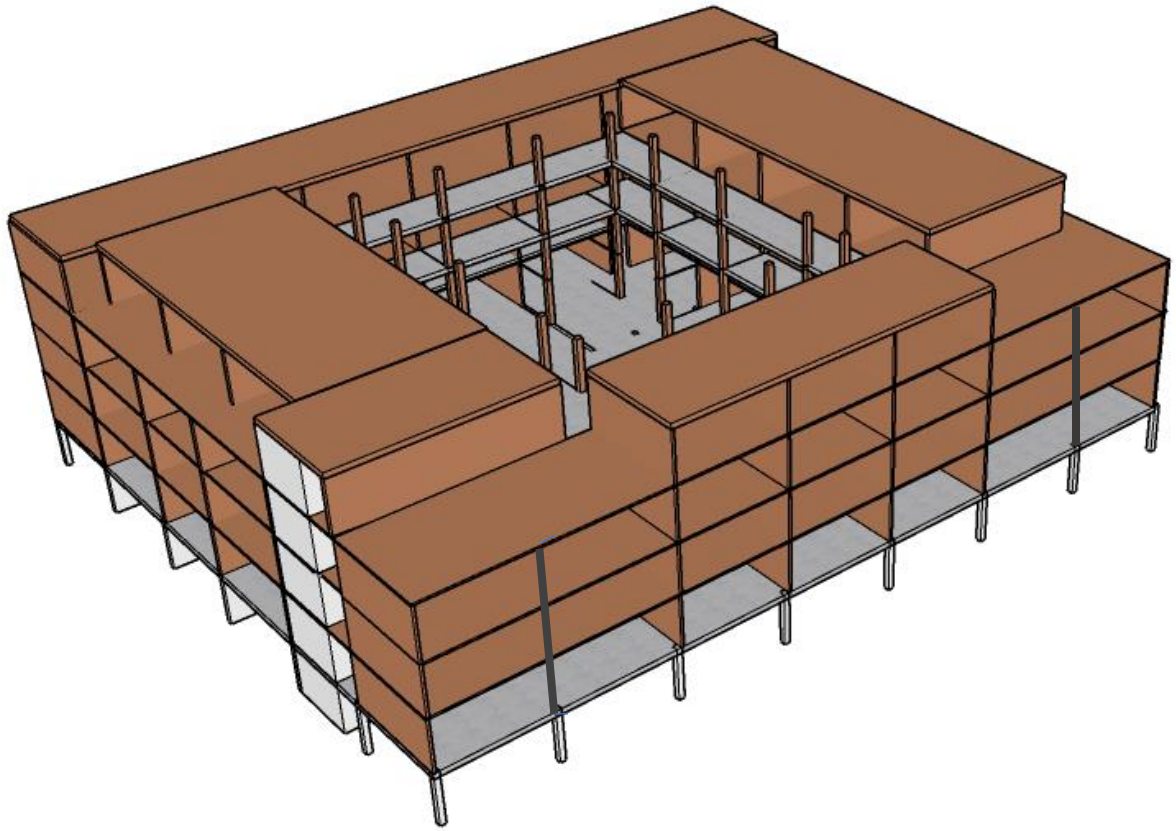
North West elevation

FACADES

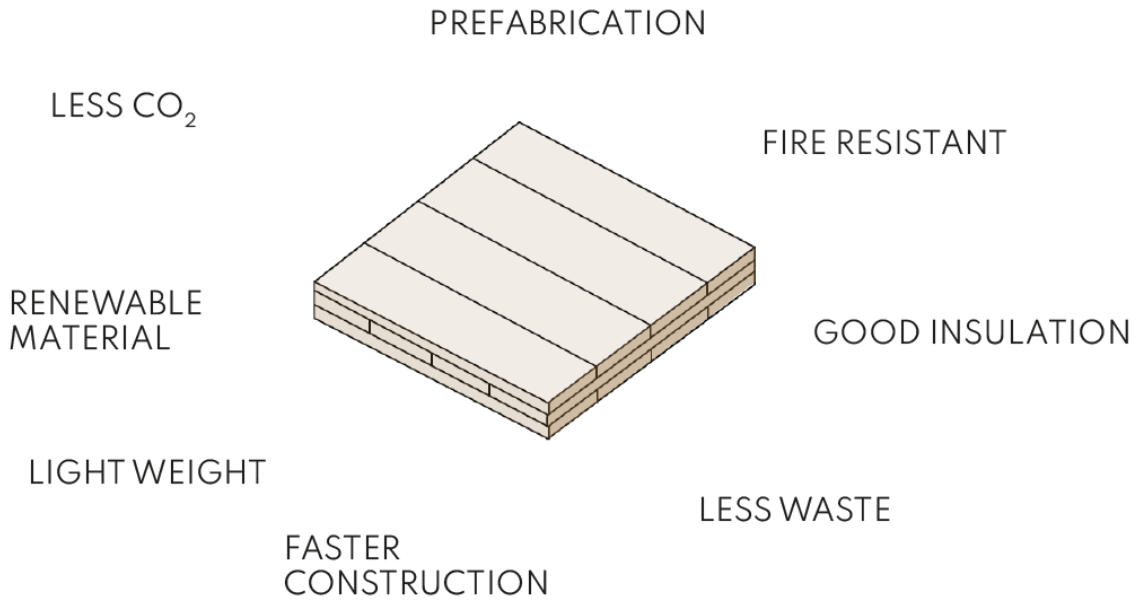
North West elevation

South West elevation

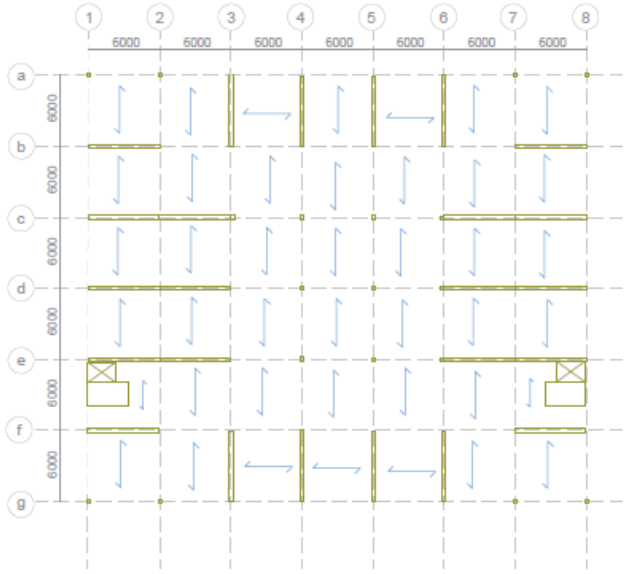
CONSTRUCTION

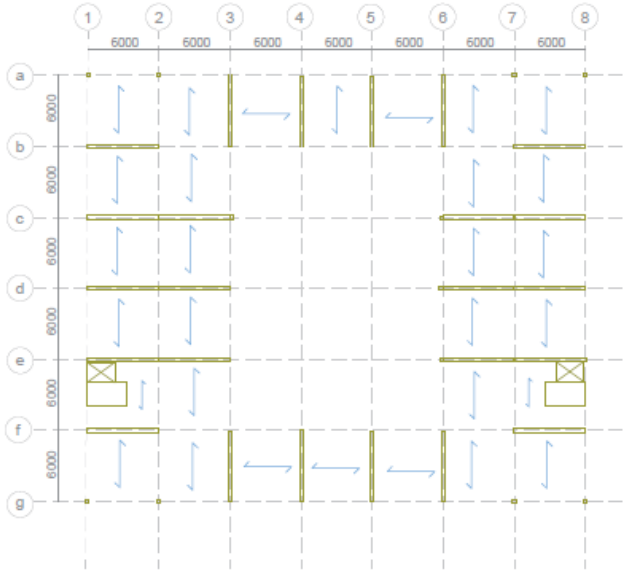


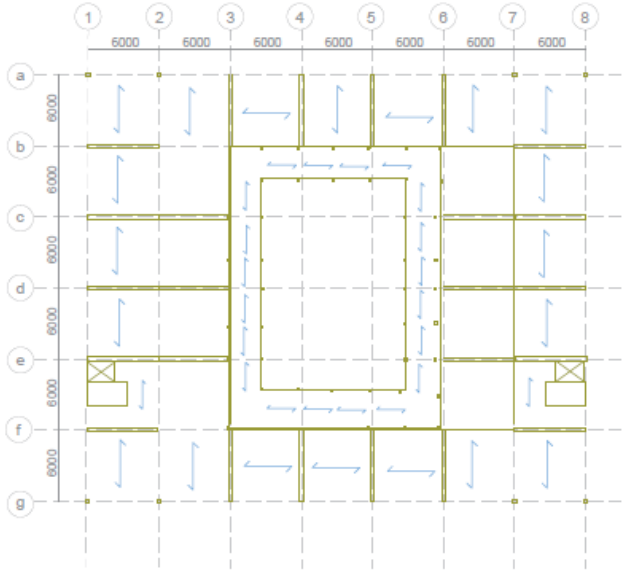
CLT

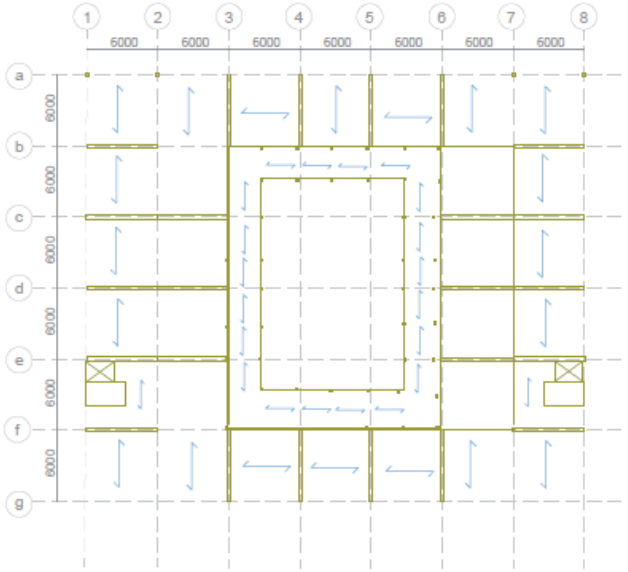


CONSTRUCTION

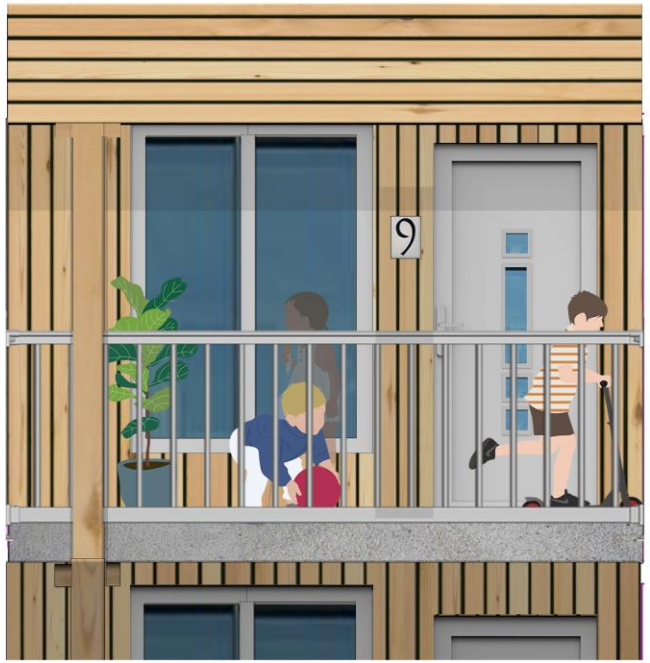


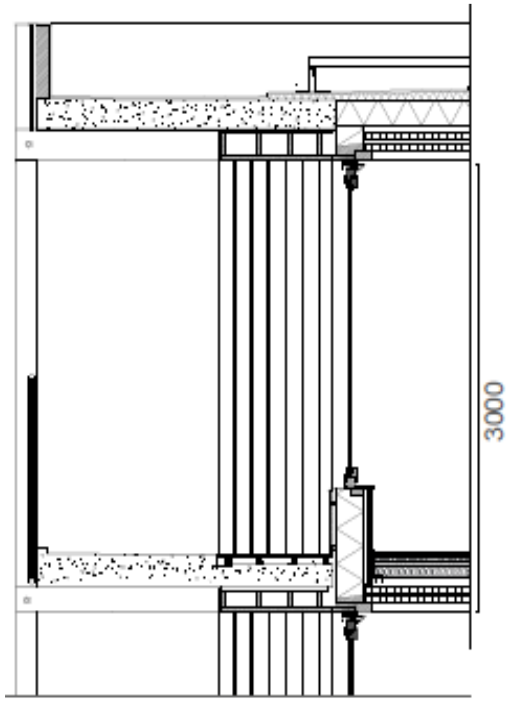


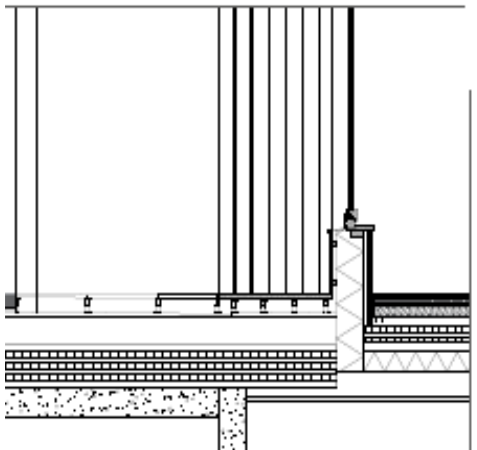




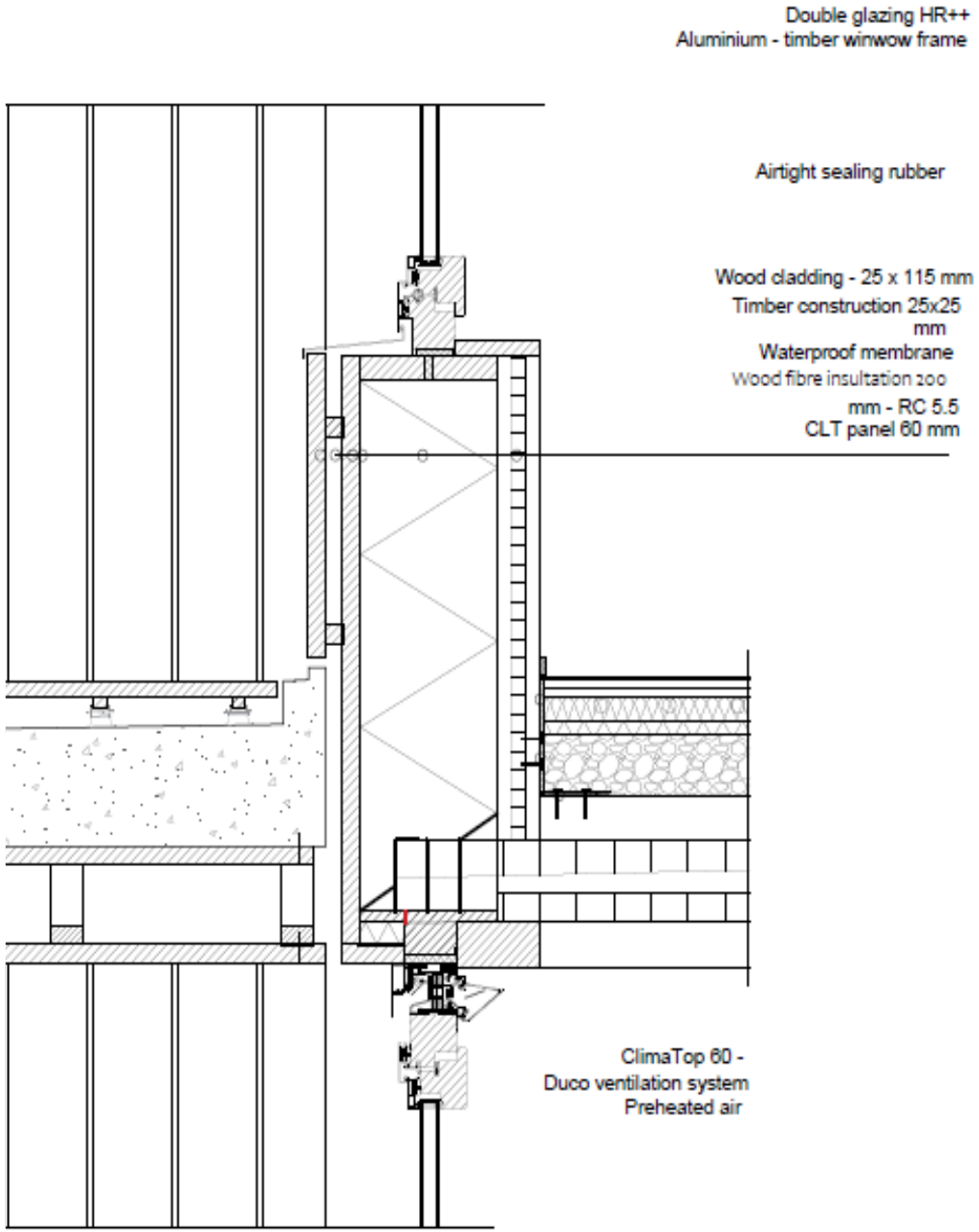
FACADE FRAGMENT



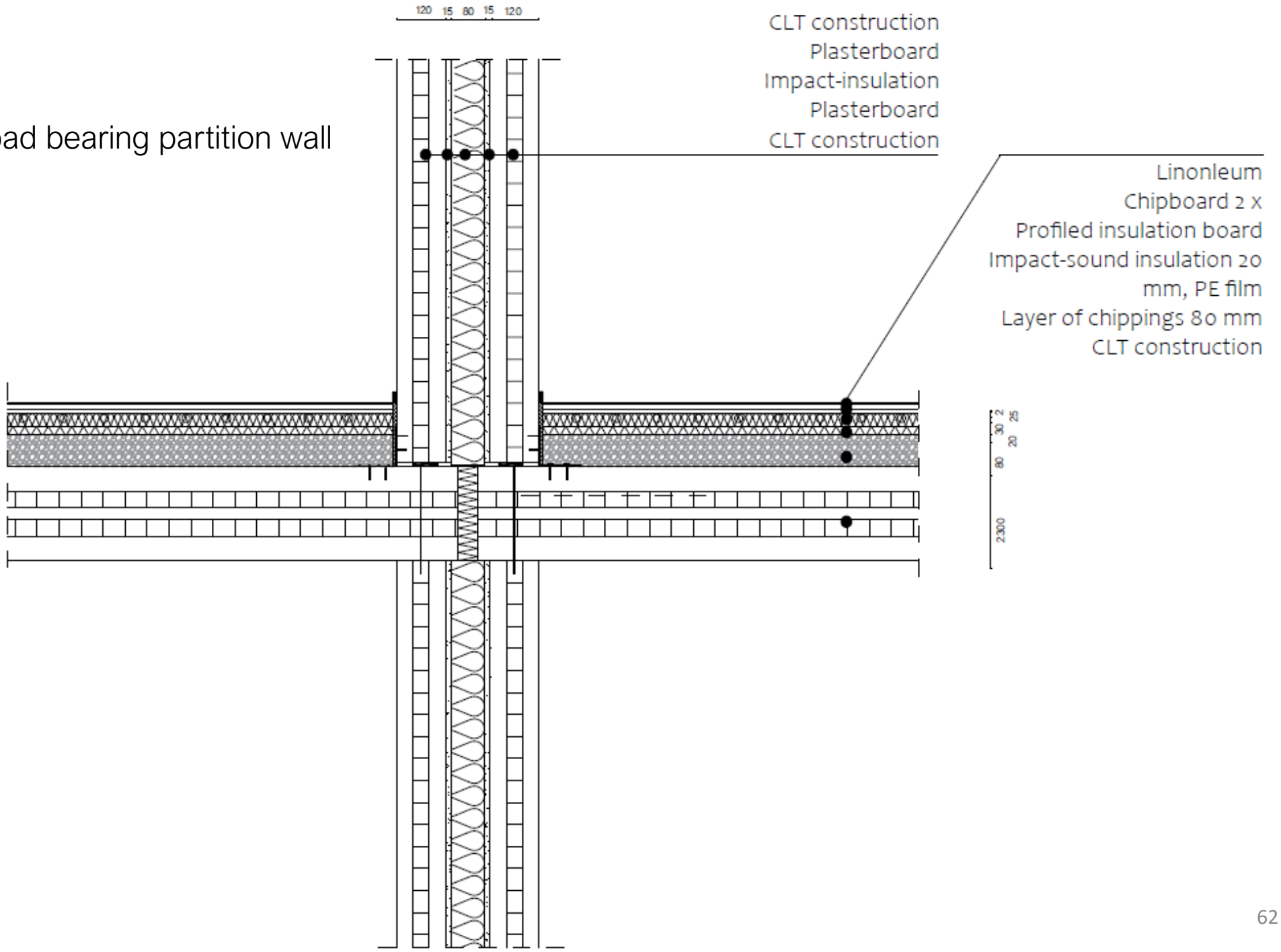




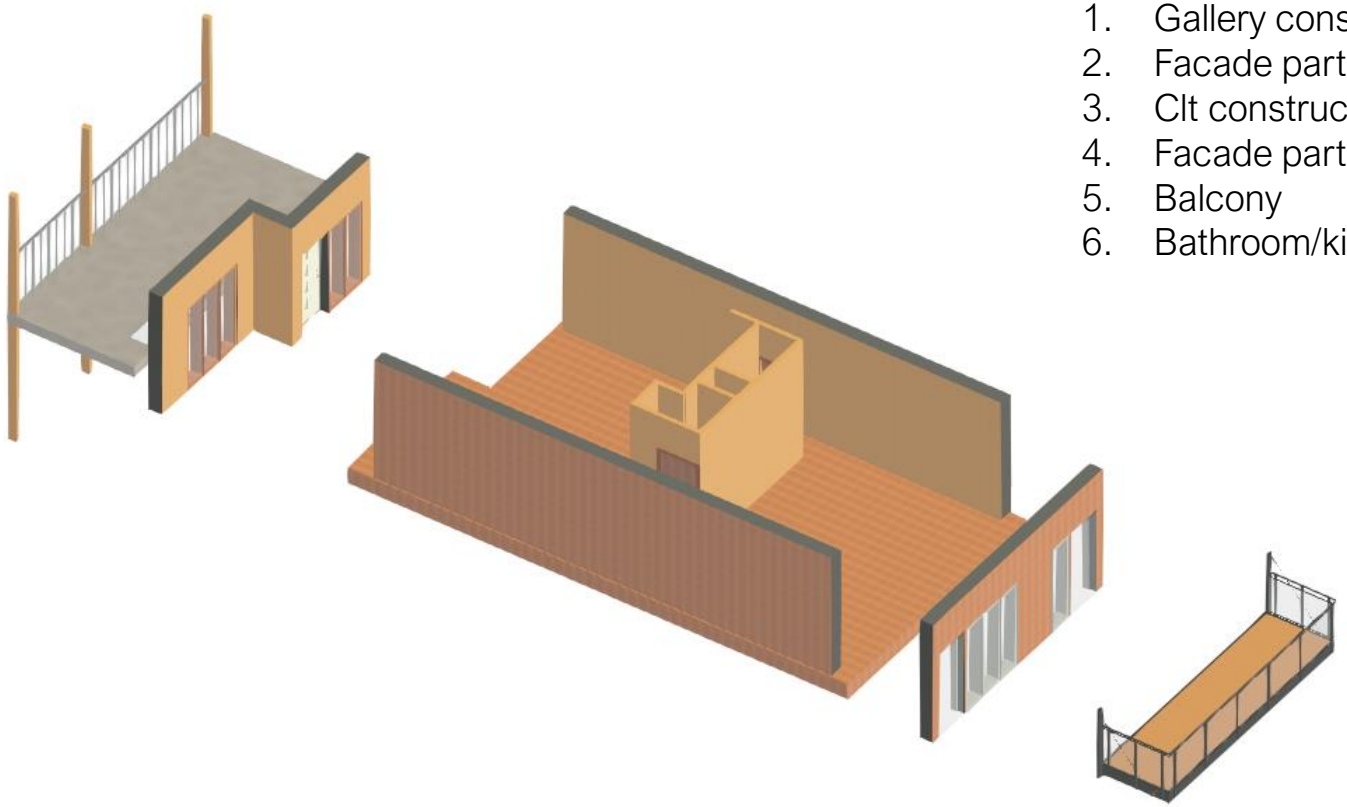
DETAIL 2


Double glazing HR++
Aluminium - timber winwow frame
Airtight sealing rubber
Wood cladding - 25 x 115 mm
Timber construction 25x25 mm
Waterproof membrane
Wood fibre insultation 200 mm - RC 5.5
CLT panel 60 mm
ClimaTop 60 -
Duco ventilation system
Preheated air

Detail 1:10 load bearing partition wall



FACADE CONSTRUCTION



1. Gallery construction
2. Facade parts courtyard
3. Clt construction
4. Facade parts
5. Balcony
6. Bathroom/kitchen

CLIMATE APPROACH

Collecting rain water

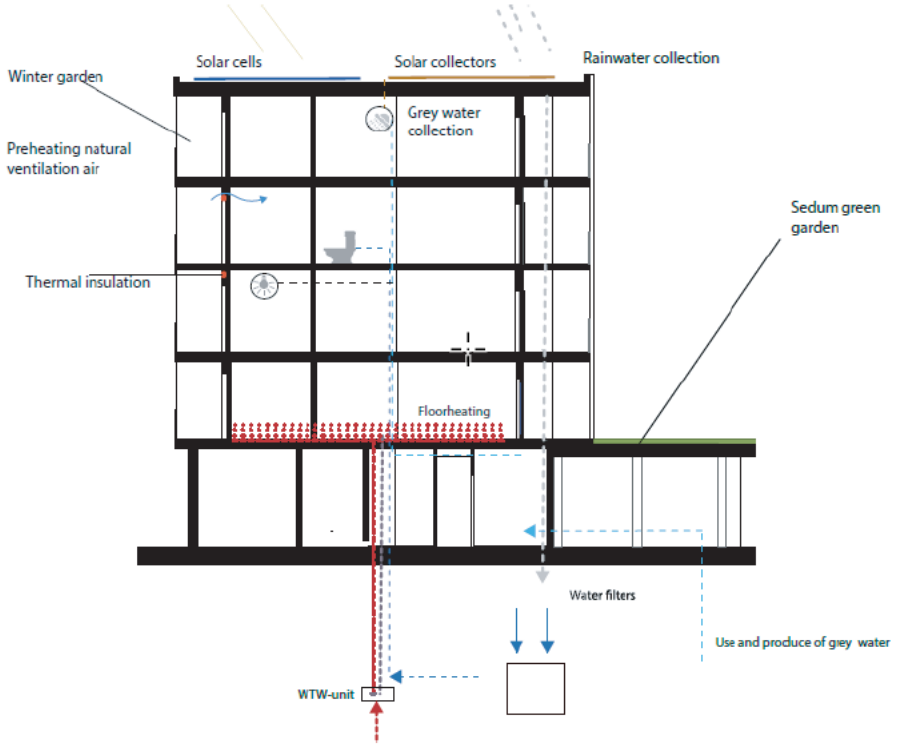
Collecting grey water

Generating electricty through solarpanels

Generating warm water through solar collectors

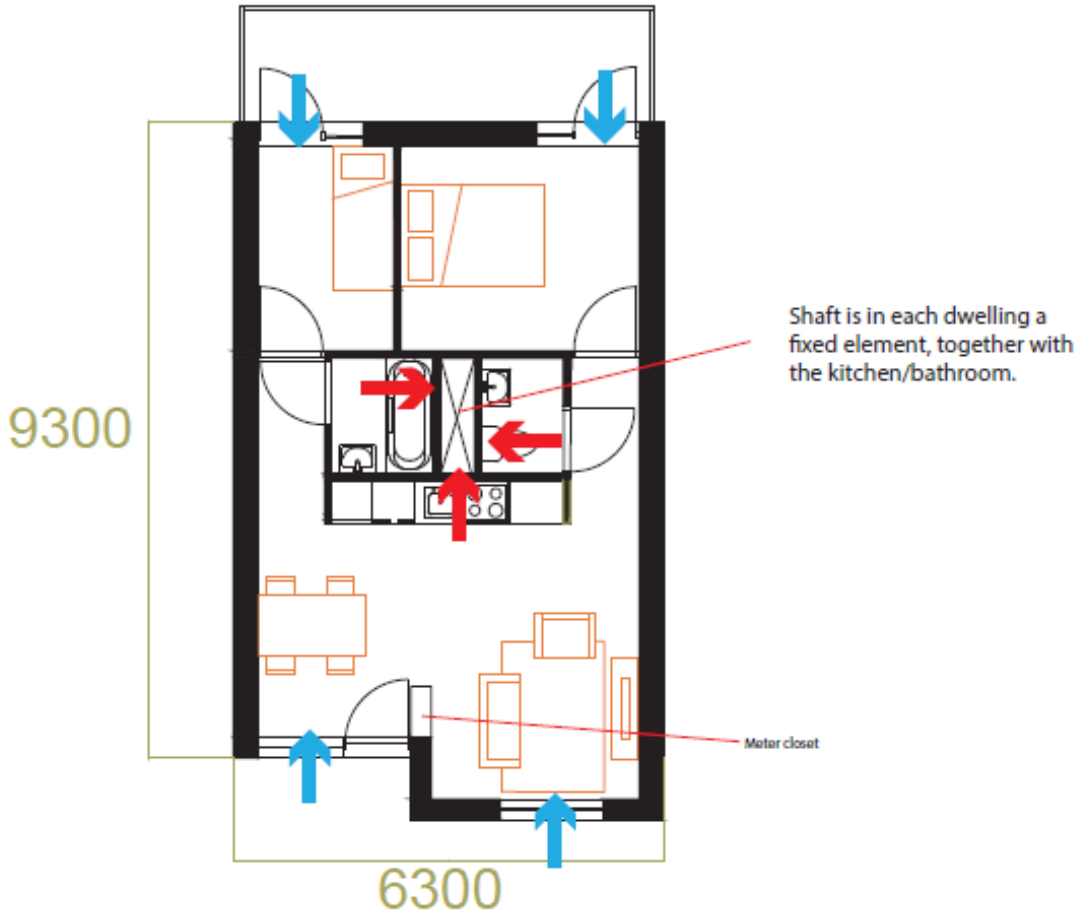
Climate approach BT

1. collecting rain water
2. Collecting grey water
3. solar collectors generate warm water
4. solar panels will generate electricity
5. Sustainability: CLT construction and circular use of materials for the facade (cradle 2 cradle?)



VENTILATION

- Natural air ventilation through windows,
- mechanical ventilation for the bathroom/toilet.



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REFLECTION

THANK YOU